University of Massachusetts Amherst
ScholarWorks@UMass Amherst

Doctoral Dissertations 1896 - February 2014

1-1-1999

Factors that contribute to team functioning : variables utilized to establish site-based teams in schools.

Anthony Serio
University of Massachusetts Amherst

Follow this and additional works at: https://scholarworks.umass.edu/dissertations_1

Recommended Citation

Serio, Anthony, "Factors that contribute to team functioning : variables utilized to establish site-based teams in schools." (1999). *Doctoral Dissertations 1896 - February 2014*. 5372.
https://scholarworks.umass.edu/dissertations_1/5372

This Open Access Dissertation is brought to you for free and open access by ScholarWorks@UMass Amherst. It has been accepted for inclusion in Doctoral Dissertations 1896 - February 2014 by an authorized administrator of ScholarWorks@UMass Amherst. For more information, please contact scholarworks@library.umass.edu.

UMASS/AMHERST
312066 0264 4607 0

FACTORS THAT CONTRIBUTE TO TEAM FUNCTIONING: VARIABLES UTILIZED TO ESTABLISH SITE-BASED TEAMS IN SCHOOLS

A Dissertation Presented

by

ANTHONY SERIO

Submitted to the Graduate School of the
University of Massachusetts Amherst in partial fulfillment
of the requirements for the degree of

DOCTOR OF EDUCATION

February 1999

School of Education

© Copyright by Anthony Serio 1999

All Rights Reserved

FACTORS THAT CONTRIBUTE TO TEAM FUNCTIONING: VARIABLES UTILIZED TO ESTABLISH SITE-BASED TEAMS IN SCHOOLS

A Dissertation Presented

by

ANTHONY SERIO

Approved as to style and content by:

Patricia Silver, Chair

Patricia G. Anthony, Member

Frank P. Lattuca, Jr., Member

Bailey W. Jackson, Dean
School of Education

ACKNOWLEDGMENTS

I would like to express my deepest gratitude and thanks to my committee members Professor Patricia G. Anthony, Professor Frank P. Lattuca, Jr., and especially the chairperson and my advisor, Professor Patricia Silver, for their help, support and the many hours they have spent on the development and review of this dissertation. My thanks as well to the Massachusetts school superintendents and their school districts that participated in this study. My sincerest appreciation and respect to my colleague Dr. Salah E. Khelfaoui for his support and assistance throughout this dissertation process. I would also like to express my gratitude to Susan Silvester and Elaine Levine for the time they have spent in review of this manuscript. Last but certainly not least my deepest thanks and love to my wife Pat and children Cara, Christopher and Lauren for their patience over the years as I worked to complete this thesis.

ABSTRACT

FACTORS THAT CONTRIBUTE TO TEAM FUNCTIONING:
VARIABLES UTILIZED TO ESTABLISH SITE-BASED TEAMS IN SCHOOLS

FEBRUARY 1999

ANTHONY SERIO, B.S., SALEM STATE COLLEGE

M.A., BOSTON COLLEGE

Ed.D., UNIVERSITY OF MASSACHUSETTS AMHERST

Directed by: Professor Patricia Silver

Education Reform has legislated school governance councils to promote site-based decision making. School teams have been suggested in special education as a pre-referral resource and assistance to teachers working with special needs students. Cross-constituent groups must be brought together to restructure schools and provide instructional support. The site-based teams require evaluation. Several performance activities, variables, and levels of training and support have been suggested in studies from states where there have been attempts to implement site-based decision making. Few of these reports have attempted to quantify the activities and variables suggested for team functioning. Through a thorough literature review of the subject and an extensive survey of site teams in the public schools in the Commonwealth of Massachusetts, a set of team activities and variables was identified and quantified by the author. The collected data was utilized to develop an evaluation instrument. The resulting questionnaire was administrated to evaluators and team members of school site teams. A statistical analysis was performed to assess the significance of these performance descriptors in estimating

the overall functioning of school site teams. The results of the statistical analysis and literature review provide the immediate supervisor with a set of variables to gain insight in the assessment of team functioning. These results can also be used to develop a self-assessment instrument to enhance team functioning. The model developed by the author can be generalized to management settings other than education. Customization of the evaluation tool is suggested as a means for future application of this study. The results of the research focus on the importance of team process and group dynamics, as well as specific product variables germane to the organization in the development of an evaluation instrument that can be used to assess overall team functioning.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

ESTABLISHING THE NEED FOR AN EVALUATION INSTRUMENT

Statement of Problem

The advancement of education reform legislation has provided the opportunity for parents, community and school staff to engage in school improvement. Teams drive the site-based management shared decision-making approach to restructure education. The teams are provided various names and varying degrees of decision-making power to improve education. In Massachusetts and Kentucky, school governance councils are hallmarks of the legislation (Massachusetts Education Reform Act, 1993 and Kentucky Education Reform Act, 1990). These are just two of approximately a dozen states utilizing site-based management as a means to reform schools (Dolan, 1997). Dolan views Massachusetts in the second tier of states beginning the restructuring process.

The Massachusetts Business Alliance for Education (MBAE) and the Pritchard Committee, a citizen's non-profit organization in Kentucky, have monitored the site-based management (SBM) team implementation in their respective commonwealths. Each organization has indicated concern with the implementation of SBM. The MBAE progress report entitled "Within Our Reach" (Minkoff,1995) indicates that districts beginning site-based management prior to reform continue to progress in these practices. School districts that began site-based management as a component of their school governance council responsibilities after enactment of the 1993 Massachusetts Education Reform Act are at various levels of implementation or development of SBM procedures. Some districts are not implementing SBM practices. The MBAE (Minkoff, 1995) reports tension between school governance councils, the name suggested in the

Massachusetts reform for these teams, and school committees (boards) in the school districts. The Pritchard Committee in its newsletter "Perspective" has reported that the implementation of site-based management shared decision making has not realized the amount of freedom and responsibility available to teams, nor have teams gained the training to redesign curriculum and teaching at the school level.

The MBAE and Pritchard Committee have recommended management training and improving leadership skills of principals, training of teams in group process skills, group dynamics, shared decision making, consensus building, and conflict resolution as ways to make teams more effective. Teams need consistent activities such as regular meeting times, written agendas, and meeting notifications to occur. Complex areas of leadership, decision-making responsibility, team goals and a vision for the team need attention as these variables have been found to be problematic if not addressed during the development of the team. The balance of power between team and principal, team members to one another and the ability to represent constituents and still interact as individuals in a team process are confounding and competing dynamics. These dynamics can be controlled by establishing team norms and specific roles for team membership (David, 1992; Hess, 1995; Minkoff, 1995; Rhodes and Digate, 1995; and Trubowitz, 1995). Superintendents, school committees and principals must work together with staff and constituents to evaluate site-based team practices.

As Education Reform Legislation progresses toward the vision of restructured schools, team evaluation will need to be addressed. Teams will have to evolve from a group of constituents. This author views the mandate and guidelines given to establish team practices as meeting with only moderate success. Teams have been suggested in

special education since the late 1970s through the early 1990s. These practices, while suggested in special education regulation and, at times, legislated, were implemented, thrived, functioned or failed depending on the introductory support and acceptance of the team practice in individual schools and districts. Parent and staff participation were dependent on the value the team had in the school's operating procedure. The principal's behavior, activity and attitude toward the team has significance in the effectiveness of team function (Goldring & Rallis, 1993; Oches, 1989; Rallis, 1989; Roody, 1989). Building-based teams or pre-referral teams meet with success if fully supported by higher authorities within the school district. The superintendent of schools and the school committee must develop and adopt a plan to train, implement, and support the utilization of team practices. The building principal is designated the responsibility to insure that the plan is implemented and maintained (Chalfant, 1984; Comer, 1985; Oches, 1989; and Stokes and Axelrod, 1981). Maintaining teams will require an evaluation procedure which can be used by supervisors or teams and by team members to self-assess team functioning.

Training of special education teams was suggested in the late 1970s to deal with change, stages of team development, group process and dynamics. Consulting and collaborative skills were suggested as training areas along with interventions to deal with academic and behavioral needs of the student. In the early 1990s, brainstorming, decision making , methods to run effective team meetings, problem solving, data collection, and methods of data analysis were suggested for special education teams. The same areas are suggested for teams entrusted with the restructuring of our schools (David, 1992; Goldring and Rallis, 1993; Rallis, 1989; Rhodes and Digate, 1995; Schachter-Rees

and Amaral, etal, 1992). This author's experience as an educator, school psychologist, and administrator in special education over the last 20 years and through literature search lead to believe that the difficulties in establishing special education teams will be replicated with site-based teams for shared decision making. Training and support suggested in research on team development, implementation, maintenance and functioning must be provided by and to school leadership (Carew, Carew and Blanchard, 1988; Chalfant, 1984; Chalfant, Pysh and Moultrie, 1979; Comer, 1985; Kruger and Sadeghpour, 1992; Oches, 1989; Rallis, 1989; Roody, 1989; Schachter-Rees and Amaral, etal, 1992; Stokes & Axelrod, 1981; Tietal, 1994; and Trubowitz, 1995).

In summary, the complexity of working as a team will require training. Without training the teams are unlikely to thrive. Variables for team building can be considered in a well-developed introductory plan supported by the superintendent, school committee and administration. Evaluating these variables in team function must be understood by school district leadership. This study will attempt to quantify activities of site teams that can be utilized by teams and supervisors to evaluate and understand team functioning and training needs to maintain and support these vehicles for restructuring education.

Statement of Purpose

Darling Hammond (1993) reports the second wave of reform as the decentralization of power and the professionalization of teaching to improve education. Staff members will participate in shared decision making along with community members, parents and, where applicable, students. It is imperative that we begin the process of working as teams to bring quality education to all of our students. It is this author's opinion that, while the concept of working as a team is essential to education

reform, the process of developing, initiating, implementing and eventually becoming a team is a difficult task. This process must be understood and established in the foundation of any site-based team practice. I hope to provide the reader of this study with a sense of the variables to consider in assessing school governance councils and building-based support teams. An emphasis will be placed on a team evaluation process that leads to assessing the training needs, activities of functioning teams, and the support required of these teams from administration and school committee (Carew, Carew & Blanchard, 1988; Chalfant, 1984; Chalfant, Pysh and Moultrie, 1980; Comer, 1985; Goldring and Rallis, 1993; Kruger and Sadeghpour, 1992; Oches, 1989; Rallis, 1989; Schachter-Rees and Amaral, etal, 1992; Stokes & Axelrod, 1981; Tietal, 1994).

Quality circle approaches inherent in site-based management and building-based support teams provide the opportunity for staff and community to join together in shared decision making. It is this author's opinion that we approach team driven reform initiatives through quality circle models. These approaches can bring about the power and cultural shift to shared decision making anticipated in education reform.

Education reform legislation emphasizes customer theory practices, in particular site-based management (SBM), total quality management (TQM) and continuous improvement. SBM and TQM models may further enhance our opportunity to serve all children as a shared responsibility of the educational community. Those closest to the implementation of innovations and service delivery would be responsible for school improvement design. The team concepts of SBM and TQM have furthered our understanding of team activities and variables that can stand as benchmarks to assess teams thriving, functioning and failing. The team establishment and maintenance

procedures for these management models are similar to those stated for team practices in special education dating back to the late 1970s and as guidelines recommended in the early-to-mid 1990s (Bonstingl, 1992; Gabor, 1990; Giordano, 1987; Glaser & Van Eynde, 1989; Harris-Wilson, 1987; Hyman and Lawrence, 1993; Vogt & Griffith, 1989).

The issue of change and the powerful influences of culture need to be addressed as we establish team process. We have learned that the problem of reform or change is more a function of people and organizations than technology. A structured change to the steady state of the school organization requires administrative and school committee support. Everyone in the school organization hierarchy must agree to make the structural change required to support the team driven activities of reform. The culture must embody change. Teachers must join team members to resolve global and individual problems. Teams can develop and promote collegiality and collaboration. We should recognize our teachers as knowledge workers. This term, provided by Drucker, (1994), describes the new era of an economic market worker who utilizes knowledge. Teachers' knowledge can enhance the quality of our educational system. In this age of the knowledge worker, we must gain consent of the teaching staff to use their intelligence, ideas and innovations (Dolan, 1994; Drucker, 1994; Handy, 1989; McLaughlin & March, 1978).

Building-based support teams were suggested in the early 1980s to deal with the increase in special education referrals and enrollment. The teams are suggested in the early 1990s to promote inclusion. Donahue, (1993) suggests that these special education team concepts were merely applied to the existing school organizational culture. The teams were not interwoven into the organizational fabric of the school. Schools operated

as if special education were a pilot and the teams ad hoc committees. Special education became a second system, separate from regular education (Wang, Reynolds and Walberg, 1988). Separate system pilots and ad hoc committees fail because they do not become part of the school's culture. Organizations can avoid and ignore pilots (Dolan, 1994).

The mistakes made in special education should not be replicated. We must go beyond adoption of teams to understand what variables and activities make a team function and thrive. We must give teams the opportunity to affect education by empowering the system at the point of delivery. The team movement, through quality circle approaches, while well-established in business and industry, was virtually unheard of throughout educational cultures until only recently. Quality circle team concepts allow those closest to the development of the product make the decisions in relation to their work. These team concepts will be met with some resistance by staff, teacher associations, superintendents, school boards, and principals. We must help those in authority share decision-making power by recognizing the value of team development in our ability to restructure schools. Leadership in education must understand the needs of teams and support them through training, resources and official adoption of these practices to make decisions (Brown, 1995; Dolan, 1994; Harris-Wilson, 1987). Adoption of a site-based team process in schools calls for the evaluation of this procedure by administrative leadership.

Significance of Study

This study is significant because of the need to provide site-based teams. These teams, entrusted with responsibilities for special education and education reform, will require evaluation training and support (California Assembly Bill 777, 1981; Illinois

Chicago Education Reform Act, 1985; Massachusetts Education Reform Act, 1993; Kentucky Education Reform Act, 1990; Massachusetts Chapter 138, 1992). This support must come from superintendents of schools and school committees (David, 1992; Kruger and Sadeghpour, 1992; Minkoff, 1995; Rhodes and Digate, 1995; Schachter-Rees and Amaral, etal, 1992). Principals must become aware of their responsibilities to the team as a support, evaluator and facilitator. The superintendent and principal must be able to recognize activities of a functional thriving team. The superintendent and principal must understand the variables that can assist the non-functioning team. Above all, the principal must be aware of attitudes and behaviors required of the position to stimulate and gain acceptance for the team process (Chalfant, 1984; Comer, 1985; Goldring & Rallis, 1993; Rallis, 1989; Schachter-Rees and Amaral, etal, 1992; and Stokes & Axelrod, 1981).

Various researchers have developed training suggestions and reported a number of variables which would lead to successful team development and implementation. The research dates back to the special education movement in the late 1970s and early 1980s. Stage development theory of groups, the change process, group process and dynamics and methods for providing consultation and collaboration were cited (Carew, Carew and Blanchard, 1988; Fullan, 1994; Hall, 1980; Idol-Maestas and Ritter, 1985; Stokes & Axelrod, 1981).

The research of the late 1980s and 1990s addresses consensus building, conflict resolution, risk taking, school improvement planning, brainstorming, problem solving, and decision making as significant components of training. In each decade, functions of thriving teams have been cited. One variable always pointed to in research is the

importance of administrative support (Carew, Carew & Blanchard, 1988; David, 1992; Hess, 1995; Minkoff, 1995; Rhodes & Digate, 1 995; Schachter-Rees and Amaral, etal, 1992).

Recent research has focused on the role of culture in support and acceptance of innovations. Teams also have to establish their own culture to build and support team activities, team membership and operating procedures (Dolan, 1994; Senge, 1990; Sergiovanni, 1992; Sergiovanni, 1994; Teitel, 1994). Schools must become more aware of changing their organizational culture to accept innovations including team practices.

- It is intended that this study will be of interest to school district superintendents, school committees and building administrators charged with the responsibility for evaluating teams that are the vehicles for restructuring schools. Teams will be assessed by school administrators, superintendents and principals based upon the descriptors activity level. Teams will find the information important to their role in recognition of thriving team practices. A series of recommendations will be made to the reader in regard to the team evaluation model developed through this study, to determine the set of activities that could best determine the thriving and functioning teams.

Assumptions

- Teams are the fundamental building block of the organizational effort. The issues and problems of an organization are not the function of any one individual or group of people; therefore, cross-constituent participation is required.

- People working in a group are more likely to produce innovative and creative solutions than are people working alone.
- Those who can best improve a system are those who know that process best and who work with it regularly.
- These people need to be empowered to analyze contexts for continuous improvement and to suggest strategies for improvement.
- The future of organizations will depend to a large extent on the ability to create cohesive teams in which members embrace rather than impede one another.
- Teachers are professionals willing to accept the challenge of complex and ambitious projects provided that support and training are made available in a meaningful manner.

Definition of Terms

- Restructuring Schools: Schools engaged in a number of reform activities. They have a clearly written vision statement developed collectively by school staff and constituents. Parents are involved in the school community. Work is being done on curriculum, instruction, performance standards and professional development. The redesigning of the school occurs through shared values and common purpose. Staff are encouraged to take risks. They receive technical assistance and support from the school. Principals are key facilitators of the restructuring process (Dufour and Eaker, 1988; Wohlstetter and Mohrman, 1994).
- Thriving functioning team:
- Functioning team with problem:

These terms were provided by Sharon Rallis (1989) to describe preference levels of

- Non-functioning team: teams based on characteristics of teams in Rhode Island Public Schools. These terms will be utilized in this study along with a category of functioning team. Superintendents and team members will be asked to rate team overall performance as they perceive it utilizing these terms.

- School Governance Council: This is a team established by school reform legislation in Kentucky, Massachusetts and Chicago, Illinois; and entrusted with school site activities associated with school improvement planning. In Massachusetts, teams consult and advise principals. In Kentucky, the principal and team members make joint decisions as to budget and policy. In Chicago, teams have hiring and firing rights over the principal. This council is an attempt at broadening the governance base of our schools (Kentucky Education Reform Act of 1990, Massachusetts Education Reform Act, 1993, Chicago, Illinois Education Reform Act, 1985).

- Change: is a non-linear activity which allows for establishment of innovation through stage of development and the personal concerns of those affected by the change. Change is a journey of uncertainty and supported risk taking. Facilitation requires the involvement of those closest to the change. A change to an organizational structure can take 3-7 years depending on the extent of the change and personal concerns of staff affected (Fullan, 1993).

- Culture: (school) A culture is a system of informal rules which spells out how people are to behave most of the time. The culture describes how things are done in an organization. The culture has key players, roles served by staff, standard operating procedures, norms, goals, and at times a vision for the organizational structure (Deal and Kennedy, 1982).
- Vision: (organizational) Vision consists of two major components: a guiding philosophy which leads to a tangible image and core beliefs. The core values and beliefs describe what is important to the organization, its role in society, how business is conducted, and what is held inviolate. Visioning allows a view of life when the organization achieves its mission (Collins and Porras, 1991).
- Mission: is a statement that clearly rivets the organization's attention on what it wants to accomplish. The mission is a clear and compelling overall goal that serves as a unifying focal point of effort. It is achievable, challenging, energizing, and allows forward growth through risk taking (Collins and Porras, 1991).
- Total Ouality Management: is a managerial organizational philosophy which empowers people to make continuous improvement. Total means everyone in the organization is involved in creating and maintaining quality of the products and services offered by the organization. Quality is defined by customers and is met by the organization through individual and group action. Restructuring is aligned with customer perception of the products and services of the organization. Management is the role of all people in the organization (Gabor, 1990; Hyman and Lawrence, 1993).
- Site-Based Management: is a governance reform procedure based on team and

quality circle approaches so that those closest to the line of production can determine the needs of the organization. It is a complex undertaking that requires policy revision and redefining of lines of authority and new roles for school administrators, school committee, teachers, and union leadership. It is a process that calls for ethics, mutual trust, patience, persistence, hard work, tolerance, conflict resolution and the intermixing of individuals rather than as representative roles (Oswald, 1995; Shedd and Barchuach (1991; Trubowitz, 1995).

- Ouality Circles: are usually composed of 8 - 12 participants. Their participation is voluntary. Circles meet regularly and provide those in line positions to problem solve solutions associated with their practice. The quality circle approach is well-entrenched in business and industry. The procedure is gaining popularity in other environments including education. The quality circle has a process that includes brainstorming, building on prioritizing problems, and establishing performance objectives. Information gathering strategies and data analysis are followed by solutions and a specified schedule of follow-up. Quality circles offer a concept to help bring people together so that they will become effective communicators and efficient workers. There is a real possibility for improvement in human relations between administration and staff. Management commits itself to improving the psychological health and the education of the work force (Giordano, 1987; Glaser and Van Eynde, 1989; Harris-Wilson, 1987; and Miller and Nelson, 1987).
- Consultation: is a facilitation between two or more staff in support of one another to problem solve and decide on mutual goals and objectives for improvement. Consultation can be done collaboratively as in peer consultation. Consultations can be done in a

process mode that allows for follow-up and feedback. Consultation can also be prescribed out of a team model. Consultation can cause one-upmanship difficulties between staff if the planning and goal setting is not perceived by the teacher as an equal partnership. A member of a team can be assigned to follow up and provide assistance during intervention implementation (Glatthorn, 1989; Pugach and Johnson, 1988; and Zins, Garden and Ponti, 1988).

- Pre-referral: is a term utilized in special education which addresses activities to be utilized through the regular education process prior to referral for special education testing. The pre-referral process can be carried out by a specified team, consultant or through peer collaboration. The four main elements are problem clarification, problem summarization, problem intervention/predicting outcomes and developing an evaluation plan (Bowman, 1987; Gardner, Casey and Christianson,1985; Pugach and Johnson, 1988; and Zins, Garden and Ponti, 1988).

- Peer Collaboration: is a set of problem solving techniques or classroom teaching strategies utilized to accommodate students in regular classrooms. Time is needed for strategy planning and follow-up of implementation of the teaching strategies (Pugach and Johnson, 1988).

- Multi-Disciplinary Team: is a team comprised of personnel from various professions. The team can be utilized to support teachers around individual cases or on a global school community problem. Specialists on the team can include special education teachers, psychologist, principal, regular education teacher(s) and a speech and language pathologist. The purpose of the team is to provide weekly forums for one or more faculty

to discuss general or specific topics regarding students and school. Activities are suggested and a timetable for follow-up is recommended (Stokes and Axelrod, 1981).

- Building-Based Support Team: is a team assigned to work through problems associated with individual students or groups of students in a school. The areas confronted by regular classroom teachers of learning or behaviorally disabled children, which include providing instruction, considering evaluation and advocating for required special education services, can take place through the team. This is a powerful prototype which can help "at risk-students" in the mainstream. The BBST is often referred to by other names including child study and teacher assistance teams (Hyack, 1987).
- Regular Education Initiative: is a phrase coined by Madeline Will, former Associate Secretary to the Federal Department of Education. The term refers to the shared responsibility of regular and special education to provide service to all students. Teams were viewed at the heart of this process lead by a principal who acts as instructional leader of the school (Will, 1986).
- Inclusion: is the practice of inclusive education of students of diverse need, disability, "at risk" status. Bilingual and/or have English as a Second Language. These students are provided education in the regular classroom environment. Teachers' efforts are supported by training and teams (Ferguson, 1995; Roach, 1995).
- Stage Development Theory of Groups: This concept was developed by Robert Lacoursiere in 1980 and applied to team development by Don Carew, Eunice Carew and Ken Blanchard in 1988. The concept of Stage Development Theory was utilized by Penny Axelrod and Virginia Stokes in 1981 in relation to the development of building-based support teams for special education. The concept suggests that several stages of

team development exist. Teams pass through the stages as they move toward high performance. The stages included orientation, dissatisfaction, resolution, productivity, and termination. Morale and productivity are variables that increase and decrease at various stages. Groups may be highly motivated and morale is high initially but production is low. As learning increases, productivity increases; however, morale decreases in the dissatisfaction stage. Problems and issues must be addressed in the resolution stage. Both morale and productivity are high in the production stage. A loss of a team member or completion of a task can lead to a decrease in morale and productivity during the termination stage. Teams do not progress in a linear fashion. Teams can regress to earlier stages due to new assignments of new membership. Facilitators of teams must be aware of these stages and support team member needs (Blanchard, Carew and Carew, 1988; Stokes and Axelrod, 1981).

- Concern Based Adoption Model of Change: This model was provided by Gene Hall of the University of Texas in 1980. The concept is based on the personal concerns of people implementing an innovation. Personal concerns need to be addressed if utilization of the innovation is to occur. Once personal concerns are addressed, a person utilizes the innovation in more productive ways. Eventually, the person can assimilate and adapt the innovation with previous knowledge to maximize its use on behalf of students (Hall, 1980).
- School Development Program: This model of site-based management share decision making is also known as the Yale-Comer model developed in the 1980s by James Comer to address the differences in values between homes and schools in New Haven, Connecticut during the time of desegregation. Comer, a psychiatrist, believed

that child development and sociology needed to be addressed in school planning. Parents plan together with staff to make decisions based on the needs of children. Decisions are made in the best interest of children. The program calls for collaboration, consensus, and no fault/blaming as decisions are reached. The model was used for desegregation through the early 1980s. By the mid-1980s, the Yale-Comer model was being utilized in 200 schools. The combination of a building-based support team, known as the staff student support team, and a shared decision- making team, known as school planning and management team, has made the model very popular and is now found in 600+ schools across the nation (Comer, 1985).

Limitations

This study is limited due to the inability to adequately evaluate the role of school culture in the development and acceptance of the team. School culture is critical to the adoption of any innovation. School cultures can be characterized by an atmosphere of collaboration, trust among staff, staff participation with parents and community focusing on continuous improvement. Everyone (i.e., parents, staff, students and community constituents) is invited to join in the "System Think" on the importance of teams in the school. School cultures can be rejecting, uncooperative and provide little support for the team. Teams that are ignored eventually do not thrive or function. The team is doomed to failure. The issue of culture must be isolated and reviewed as a separate study in which teams thriving and functioning can be compared to the school culture's willingness to adopt the concept of team(s).

Designs and Procedures

The impetus of this study is to provide the evaluation of activities and conditions which may lead to thriving and functioning school site teams. Research and hypotheses provided from the late 70s through the mid-1990s have indicated the activities and variables of thriving functioning teams. The training needs and supportive environment for team development has been reported for both building-based support teams and site-based management shared decision-making teams. This study proposes to quantify what activities and variables are perceived to be important to and contribute to a team's functioning and thriving. The type of training implemented and the support provided to teams will be dependent on team assessment. This evaluation tool can be used by supervisors or as a team self-analysis instrument. Recommendations will be developed for school administrators, superintendents and school committees to assess the needs of teams implementing building-based support for special education and shared decision-making teams attempting to restructure our schools.

The activities of teams to determine perceptions of thriving and functioning will be surveyed among superintendents and central office administrators. This survey will include the opportunity for central administration and superintendents to provide benchmark (descriptors) they use to assess team functioning. This information will be gathered through a stratified survey of six geographical areas in Massachusetts. This information will be used to develop a survey for use in the study. Further, superintendents from across the state will be asked to rate the variables and activities suggested by their colleagues in the open-ended survey. This will assist in determining

the variables and activities with a high measure of central tendency of utilization by superintendents when assessing their site teams.

Central administration will categorize existing teams in their school district as thriving, functioning, functioning with problems or non-functioning based upon the variables and activities rated by superintendents in a redesigned general survey (Appendix C). These perceptions will be utilized to code school teams as thriving, functioning, functioning with problems or non-functioning. Surveys to sites will allow for gathering of similar perceptions from team members as to occurrence of descriptor activity levels. Teams will rate their perception of overall team performance based upon the levels thriving, functioning, functioning with problems or non-functioning. This process will allow the opportunity to estimate if superintendents' identified descriptor activity levels, rated to assess and categorize team performance correlate, to the team members' perceptions of the occurrence of these activities and the team's perception to overall performance. Attempts will be made through multi-step regression analysis to determine if teams categorized as thriving and functioning actually attend to the activities and variables as suggested in the superintendents' descriptor survey (Appendix A). F-test will help determine variance in response to specific activities and variables. Anova will be utilized to further determine correlation between the importance of activities rated by team members and importance of activities rated by superintendents. This will occur if Stage II of the study design has to be placed into operation. The multi-step regression analysis may yield a profile of important activities to team development, implementation and maintenance which are better predictors of team function.

The questionnaire to be utilized has been designed by this author and is based on research of the literature on building-based support teams and site-based management shared decision-making teams. The benchmarks used to assess team functioning by superintendents, gathered through the stratified regional survey, and then distributed for rating of these activities at the 1997 Superintendents' Summer Academy were also used to develop the new evaluation model (refer to the Pilot "Stage 0" in Chapter III). The questionnaire will be read by several professionals to determine readability, understanding and face validity.

School districts in Massachusetts will be utilized for this study. Superintendents were asked to submit a form stating their willingness to have their districts participate in future studies. Teams within the school district will be rated as to their overall performance by the superintendent and central administration. Site teams will be coded to the categorization given to them by the superintendent and central administration as to thriving, functioning, functioning with problems or non-functioning. Surveys will be distributed and collected by central office at participating school districts. The random selection of districts will come from a pool of districts that respond in the positive to be part of this study. The same six geographical areas used in the stratified open-ended descriptor survey will be utilized to establish the pool of selected districts. These six areas include the Berkshires, the Pioneer Valley, the Worcester area, Cape Ann, Cape Cod and the Boston metropolitan area. Special considerations as to population density, urban, suburban, and rural communities will be taken into account to equalize proportionately in the sampling. Site-based management (SBM), shared decision-making (SDM) teams and building-based support teams (BBST) will be utilized in this study.

The school governance council in Massachusetts schools will be utilized but schools will be asked to identify if the council serves as an SBM or SDM team.

Hypotheses

- Hypothesis #1

The descriptors activity levels as reported by the team members may estimate the superintendent's overall performance evaluation of the team.

- Hypothesis # 1T

The self-evaluation of the team by the team members can estimate the descriptors activity levels as reported by the team members.

- Hypothesis #1F

The evaluation of the team by the superintendent can estimate the descriptors activity levels as perceived by the superintendent.

Stage 2 (to be implemented if Hypothesis #1 or Hypothesis #1T prove to be negative.)

- Hypothesis # 2

The importance of the descriptors as perceived by the superintendent is different from the importance of the descriptors as perceived by the team members.

Data Analysis

A multi-step regression approach will be utilized in analysis of the data. Means, median, mode, standard deviations, and correlation will be reported as to survey items in relation to team activities identified by superintendents. F-test and T-test will determine the variance of perception for rated activities and the correlation of the activities to team thriving and functioning. The multi-step regression analysis will be utilized to determine if activities as suggested in Hypothesis #1 and Hypothesis #1T are statistically significant

components to determine levels of team performance. The comparison of central office administration perceptions to site team members will be based on responses given to activities as suggested by superintendents in assessing their site teams overall performance and the rating provided by team members to perceived occurrence levels of the activity descriptors. If Hypothesis #1 and Hypothesis #1T are determined to be true, then the model will be considered acceptable as an assessment tool to determine levels of site-team functioning as perceived by both supervisors and team members on these 70 descriptor activities. If one of these hypotheses proves false, then Stage 2 of the study design will be implemented to determine correlation between the importance of the descriptors as perceived by superintendents and members of the site teams.

Research Instrument

The development of the survey by this author is intended to capture perceptions as to team activities. These elements are taken from an extensive literature search on team development and maintenance procedures that lead to a thriving functioning team. Items suggested by superintendents to assess their site teams were surveyed and utilized in the questionnaire's development. Activities are measured by a Lickert Scale that provides an opportunity to report on perceived occurrence of the 70 descriptor activity levels. Both team members and superintendents will rate the performance of the site team as to its functioning. The 70 descriptor activity items will be regressed against the teams overall performance rating as perceived by superintendents and site team members, which is the 71st question.

In summary, the opportunity for site-based decision making is available to staff and parents. The educational community can participate in school governance. The

opportunity for cross constituent groups to formulate the direction of schools is available. This team process and ability to participate have been provided through legislated education reform. The team building, required to have a group of people become a team, is essential to this broadened governance decision-making body. This study calls upon the research provided since the late 1970s through the mid-1990s as to important activities, variables, training and level of support needed for teams to thrive and function. An evaluation model of teams derived from a literature search and superintendents response from across Massachusetts will be used in an attempt to assess the occurrence levels to which teams carry out descriptor activities. The model should assist in determining support and training needed by teams based upon evaluation by supervisors and/or team self-assessing their overall performance levels.

CHAPTER II

A LITERATURE REVIEW OF SITE-BASED TEAMS IN SCHOOLS

Introduction

Teams will lead us through the era of educational reform. The restructuring of our schools will call upon the synergy of cross-constituent teams. These teams will act as quality circles providing an opportunity for those closest to the educational system to develop solutions for the organization. Special education has utilized teams for the past two decades. These teams have had the opportunity to influence and change regular education. Special education team processes and procedures can provide educational leaders with important lessons in team building, team maintenance and development into functioning teams. Groups of people coming together to form teams requires training and facilitation. Educational leaders must provide this facilitation. This requires knowledge as to team process dynamics, activities and variables that can develop functioning teams. Educational leaders must provide an environment that allows teams to be adopted as part of the school's standard operating procedure. The organizational system of the school can be restructured to include functioning teams as required by education reform in the conceptualization of school governance councils and in building-based support teams as suggested to carry out pre-referral activities as part of the regular education initiative. This restructuring requires skilled facilitation on how to evaluate team functioning.

This report provides a team evaluation framework to enhance our restructuring initiatives through the utilization of teams. The association of these teams' models to total quality management and quality circles will be given consideration as a component of administration's facilitation of customer theory practice in reform. The historical

perspectives of special education regulations and initiatives will be provided as a reference point throughout this report. Special education team approaches have had the opportunity to serve as a quality circle model. Resources of the school and personnel can be utilized to provide for the individual needs of the student and/or serve the global needs of the learning community through the team process.

It is the intention of reform that school governance councils provide this same team opportunity for all school students. Leadership will be required to make this change. A shift in attitude and behavior will be required to make teams part of the school culture. Without this cultural shift, the likelihood of teams having this profound restructuring effect in our schools will meet with only moderate success. It is this author's opinion that special education and its dynamic team composition have had only moderate success due to the forces of change, school culture, limited role of school administration and a lack of assessment of the variables and activities of functioning teams. This paper is intended to give school leadership a sense of the training, support, activities, and variables to develop, implement, evaluate and maintain functioning school teams.

My thanks to the Massachusetts Association of School Superintendents for assistance in this research project by willingly giving of their time and school personnel efforts in completion of the surveys.

The Education Restructuring Movement

The Restructuring Movement in education is an attempt to improve linkages between special and regular education. Remedial services of Title I and Bilingual/ESL are often considered in these education reform directives. Integrating second system

programs with regular education to form a comprehensive and inclusive educational system is a goal of reform. It is believed that such a reform would encompass a wide range of coordinated programs and alternative educational opportunities. In turn, schools would be improved and would be able to meet the needs of a diverse number of students (Reynolds, Walberg, Wang, 1988).

The Education Restructuring Movement emphasizes inclusion. Cooperative learning and diverse teaching techniques are considered hallmarks of redesigned curriculum delivery. Collaborative and process consultation and utilization of pre-referral strategies are understood as alternatives to special education placement. We have entered an era in which it is felt that all individuals can be included in the mainstream of education no matter how diverse their needs. Inclusion can be coupled with the efficacy movement which calls upon educators to have high expectations and standards for all students. The efficacy model endorses working with the student's ability to learn, while de-emphasizing standardized tests which pigeon-hole students by supposed innate ability. It does appear that inclusion is based on the ability of the local school to govern its own existence and support its staff in fulfillment of this initiative. Likewise, efficacy calls for a behavioral and attitudinal change for the staff and a cultural shift for our schools to be reflective environments where all are involved in lifelong learning.

The area of special education is not a component of the Massachusetts Education Reform Act (MERA, 1993). Special education is referred to in the Massachusetts Business Alliance for Education (MBAE) (Minkoff, 1995) progress report as one of the mandatory regulation areas over which the state must review practices of local districts.

The state must act as a regulator of complaints and settle disputes among parents, students and schools. The MBAE report entitled "Within our Reach" (Minkoff, 1995) is explicit in the inclusion of all students with the same high expectations and standards held consistent for all.

Peter Dolan (1994) describes the powerful influence of the steady state of an organization to resist change and initiatives. The system must recognize its need to incorporate the initiative into its culture. This system thinking (Senge, 1990) and the building of a culture has been absent from the special education movement. The leadership of schools has been sporadic in establishing inclusion practices as components of school culture. Building-based teams are utilized effectively depending on the view of the principal and staff as to their importance in the culture of the building (Rallis and Goldring, 1993). Attempts to provide a cultural acceptance carried out by the major players in the community of learners have been lacking.

Sergiovanni (1994) indicates the importance of leadership in spreading the responsibility for leading school restructuring initiatives. The image of the lone charismatic leader will not sustain the influence of the steady state of our current school organization to reject change. The leadership of the organization is vital in setting the vision into motion to create systemic change. The function of a leader is to catalyze a clear and shared vision for the organization and to secure commitment to the vigorous pursuit of that vision. However, a single leader cannot carry out this vision alone. The vision must be shared and supported by stakeholders in the organization.

There are lessons to be learned from special education about building a learning environment and establishing a culture with core beliefs. Teams are the vehicles in

carrying the message of change, support for the value of cross-constituent parties and creating solutions to educational problems. Development of school governance councils with emphasis on site-based management is a component of the total quality education movement in a restructured school. Communication among constituent groups, the acceptance at its core the premise that all students "do learn" (Rhodes, 1994), will begin a journey which unites common purposes. Cultural shifts will occur if the system synchronizes its movement to restructure at district and site level around a defined and well-articulated core. While special education defined the core value, it did not establish the internal communication nor develop the number of leaders within each district and building to keep the initiative as a focal drive. The movement toward school governance councils as mandated in the Education Reform Act of 1993 and the building-based support teams of the Regular Education Initiative will call for restructuring which includes training in the understanding of team building and the process of team evaluation so they can be maintained in pursuit of their vision.

The Regular Education Initiative

At the heart of the Regular Education Initiative is the utilization of Teacher Assistance Teams (TAT). Teams of regular educators within the local building lend support to each other. Teacher Assistance Teams have been implemented since the late 1970s. These practices have had limited research. Teams have only gained popularity recently within the Restructuring Movement. Madeleine Will stressed TAT's in her document "Educating Children with Learning Problems, A Shared Responsibility." Will, Associate Secretary of the U. S. Department of Education, introduced the Regular Education Initiative in 1986. This initiative redefined the need to combine special

education and regular education service delivery into a system of inclusive practice. The reauthorization of Chapter I, now and again referred to as Title I, and the reauthorization of P.L. 94-142 as the Individuals with Disabilities Act clearly indicate that this inclusive and comprehensive direction is a benchmark of reform.

The regular education initiative has met with resistance, (Kauffman, Gerber and Semmel, 1988) although reporting that, it is hard to argue with the main tenants of the:

- Working toward better integration and coordinated services
- Economic and efficient methods to service disabled students
- Identification of disability only when necessary
- Research on instruction and effective schools
- Appropriate testing practices that are all linked to educational objectives to be implemented for the individual child.

Critics of the regular education initiative do feel that for certain groups of individuals, the regular education initiative will bring about an end to service options that remain a necessity. Braaten, Kauffman, et al (1988) indicate the concern that children labeled as behavioral disordered (B.D.) will not be served. Teachers are less tolerant of this group of students. Further, they report that behavioral disabled students cannot be considered as an over-identified population, as suggested by regular education initiative supporters of the learning disabilities population, as only 1% of the national stated population is reported as B.D. They point out that researchers have clearly supported the assertion that not all B.D. students can be managed and taught effectively in the regular classroom. These same assumptions were placed in front of Congress as consideration of amendments related to IDEA. The areas that states wanted Congress to address included

exclusions of students with disabled conditions for dangerous behavior not associated with their handicap and freedom from the "stay put" clause of the regulations.

Criticism has been leveled at other components of the regular education initiative by Vergason, Anderegg (1989) and Kauffman, Gerber and Semmel (1988). These include:

- The continued criticism toward evaluative instruments with little energy into improvement of the instruments
- Continued utilization of research from the 1970s pointing to the negative effects of labeling
- Continued criticism of teachers as poor judges of which students should be referred for special education evaluation and placement, when, in fact, teachers may have the technical knowledge but are lacking in time and administrative support to work with specific students
- Continued claims of cost reduction from effective programs not thoroughly researched as generalized to other special needs populations or to be utilized by untrained staff

Will (1986) further levels criticism at pull-out programs which have failed to meet the educational needs of the identified special education students by pointing out that:

- Students were considered disabled due to poor performance.
- Program placements address their failure.
- Parent and school administration are set at odds against each other due to the centralization and over-regulated special education identification/criteria process.

The underlying assumption is that most of the students now identified as mildly disabled – presumably many of these labeled educable mentally retarded and seriously emotionally disturbed – for Federal accounting purposes as well as those categorized as learning disabled, are neither disabled nor appropriately served by special education. This assumption is criticized by Kauffman, Gerber and Semmel (1988) who report that the 1987 U.S. Department of Education data indicates a leveling off of students identified as learning disabled and an actual decline in the number of students receiving services in special education under PL 94-142 than reported in previous years. Their reports are refuted by reports to Congress in relation to IDEA Amendments of 1995 and the 16th Annual Report to Congress on Special Education.

Servicing these students in a parallel system is obstructive to the accomplishment of the goals of PL 94-142 (Greenburg, 1987). Paradoxically, the efforts to enhance equality of opportunity through narrowly-framed special programs have become problematic. Among the most pressing issues are:

1. Flawed classification and placement system
2. Disincentives for program improvement
3. Excessive regulatory requirements
4. Fragmentation and lack of coordinated programs
5. Loss of program control by school administrators

Many educators are concerned about:

- Labeling practices
- Discrepancies in state eligibility criteria

- Decisions made due to powerful organizational influences (finances and available resources)
- Lack of consistency in decisions made by special education multi-disciplinary teams

Assumptions about the disabled and disabilities require change as do inadequacies in regular and special education practices. Educational leaders look toward a unitary system of education for all students, a paradigm based on a revitalized general education system dependent on financial backing and curriculum revision (Reynolds, Wang and Walberg, 1988 and Gartner and Lipsky, 1987). Least restrictive environment as described in PL 94-142 was to be a regular classroom placement. Other placements out of the mainstream would be chosen if the student's educational needs could not be met within the regular classroom. The concept of related services was developed as a means to enhance the educational program of the special education child to ensure the ability of the child to be serviced in the public school's classroom. PL 94-142 rejects the Medical Model of Disabilities which characterizes the disability as inherent in the individual and thus formulates two separate categories of people and describes a scope of services to provide the student with what is necessary to take advantage of and benefit from an educational program (Gartner and Lipsky, 1987). Despite this initial emphasis of the law on the least restrictive environment, the numbers of students entering special education continued to rise as did the cost of providing services.

Landau (1987) questioned if integrating students in regular education was occurring at all in Massachusetts. In her report, "Out of the Mainstream," she details numerous statistics which indicate that regular education placement was occurring less at

that time than in 1974 with the inception of Chapter 766. In response to this criticism, the Massachusetts Legislature has become more aware of the importance of educating special needs students in least restrictive environments. Chapter 653, an Act establishing budget control and reform, January 1990, included the terms "least restrictive environment" in Chapter 71B, the statute governing special education in the Commonwealth of Massachusetts. Chapter 138 amended 71B to emphasize LRE (least restrictive environment) language as presented in the IDEA Amendments of 1995. 71B now provides even stronger foundation for mainstreaming and integration. The Department of Education's three-year plan for LRE between the fiscal years of 1991-1993 are based on this legislative direction and emphasis. Recent Department of Education reports indicate the same trend reported by Landau in 1987. More students are entering special education.

Long (1995), in a paper produced by the staff of the Washington Office of the International Reading Association, provides disturbing evidence in the 1993 U.S. Department of Education 16th Annual Report to Congress on Special Education, indicating concern due to the rising number of students entering special education. Further, the definition and identification process were still based on academic achievement and not on a clinical diagnosis of a learning disability. They present further alarm by noting students identified for special education fall further behind in learning to read. They view being mislabeled as "learning disabled" a barrier in itself to literacy.

The IDEA Amendments of 1995 provided a picture that indicates improvement in many areas for special needs students in relation to graduation, higher education and school to work transition. Very positive frames are presented as to parental involvement

in the direction of their child's education. Teaching strategies are viewed as improved due to dissemination of demonstration site activities funded by IDEA. The knowledge base of teaching has grown as to effective strategies which are transferable to regular education. The challenge to the IDEA is focused by the concern that, despite this progress, educational achievement for students with disabilities remains less than satisfactory. The population of students is very diverse and broad in range of ability. Too many students do not receive the aid and supplementary service they require. They fall behind, fail and drop out of school. The results for learning disabled students with emotional disabilities are particularly poor. Due to the continued struggles over identification priorities, minority students are often mislabeled as learning disabled and placed in restrictive environments.

The vision given for IDEA includes five key principles:

- Align IDEA with state and local education improvement efforts.
- Address individuals needs in least restrictive environments.
- Train teachers and families who have disabled children to effectively support student learning.
- Focus on teaching and learning.
- Strengthen early intervention to help ensure that every child starts school .ready to learn (IDEA Amendments of 1995)

The reauthorization of Title I provides similar language to involve parents in the learning process. Improvements in teacher training, curriculum renewal, teaching practices and school-wide program initiatives are to be tied to state reform movements. The agenda has been set that the "second system", a term coined by Walberg, Wang and

Reynolds (1988) must be incorporated into the culture of the school. The movement of Congress toward block grants will further force the marriage of the second system and regular education into an inclusive model of teaching and learning.

Roach (1991) also provides figures on inclusion that 28.8% of disabled students were serviced in regular classrooms in the 1987-88 school year. The percentage of students in the mainstream has increased 11% in five years to 39.81%. Meanwhile, the percentage of students educated outside of the regular school building dropped from 6.4% to 4.5% during the same time period. She does warn that we must guard against a practice of mainstreaming and strive toward inclusion.

Diane L. Ferguson (1995) adds that since special education emerged as a separate part of public education, the fundamental assumptions about students with learning disabilities shared by both regular and special education have not changed much, and despite periodic challenges to the culture of schools, these assumptions became truths:

- That students are responsible for their own learning
- That when students don't learn, there is something wrong with them
- That the job of the school is to determine what is wrong with as much precision as possible so that students can be directed to tracks, curricular, teacher and classroom that match the learning style

Teachers still refer to special education students as "my inclusion students." These inclusion students are irregular. They need special things and special education provides these things. She calls for systemic inclusion, one that emerges from the reform and restructuring effort of general and special education making a continuum of opportunity available to all students – every child should have the opportunity to learn in

a lot of different places. The regular education initiative and various school reform restructuring activities must be linked to the "second system" and local building-level improvements which require the establishing of responsibility and accountability of teachers and school administration for all programs (Wang, Reynolds and Walberg, 1988). The inclusion component of education reform is an attempt to unify the "second system" and cause a paradigm shift that all students can learn in the mainstream. This is a paradox in thinking about the education of students with special needs and is clearly championed in the reauthorization of Title I and the IDEA Amendments of 1995.

Reynolds, Zetlin and Wang (1993) have described the 20/20 system as a non-categorical alternative to special education evaluation and placement by focusing on various measures of student achievement and to systemically redesigning course offerings to meet student needs in the top 20% and lower 20% margin of learners. This approach appears to be a restructuring alternative in line with research on school improvement planning and collaboration between regular and special education and the educational community at large.

Reynolds, Wang (1993), Long (1995) and Pogrow (1993) established the division in this continued argument over the best environment in which to educate the learning disabled child and the best qualified teacher to service the student. While the authors agree that programs such as Reading Recovery can work, Long positions that the regular classroom can deliver similar programs at cheaper cost than extensive testing and expensive special education programs while Pogrow states the need for specialized settings and well-trained professionals to deliver the specialized remedial strategy. Pogrow states the failure to mainstream specialized approaches will fail again relabeled

as inclusion. Long establishes that the learning disabled are in the lowest 20% of the class and should be addressed by the regular class teacher giving special attention to student needs through proven intervention programs. A school district must pick the directions they wish to follow and establish a belief in the model they will follow once the direction is adopted. There must be the proposed development and system thinking which creates the common purpose that all children can learn or do learn and we must help them achieve those levels through either pull-out or inclusion models.

Deno and Maruyama (1990) provided research on several schools utilizing mainstream model practices, indicating that teachers perceived their school in a more positive fashion. They also report student behavior in the regular classroom in a more positive manner. They argue the point that students in integrated programs are viewed as doing better socially and academically. Convexly, it was also found that the direct identified attention and the differentiation of programs found in resource rooms are lacking in the mainstream. This lack of specialization is most notable in reading. Long (1995) further states that in integrated inclusion programs, special education students are often taught by uncertified paraprofessionals. He calls for specialized reading programs that intensify reading activities for all students. The reading programs addressed include Reading Recovery, Success for All, the Winston-Salem Project, Early Intervention in Reading and the Boulder Project.

McLesky and Waldron (1995) continue the discussion on inclusion by pointing to the fact that limited research is available for understanding the success of separate class programs. Further, they provide rationale that time and money must be spent to study inclusion models to understand the effect of progress with students in restructured general

education classrooms. They champion the position that we support the journey down a path of restructuring general education classrooms to better meet the needs of all students. Zigmond, Jenkins, Fuchs, Deno and Fuchs (1995) argue the need for a continuum of service delivery models and improvement of regular classroom practices. They also state that their research provides evidence that 46% of students with learning disabilities achieve no growth in reading when service is provided in the mainstream. They also state 54% of the students fail to gain ground on peers providing a bleak future for students with disabilities moving from elementary to secondary programs with skills in reading.

Teams Unite the Dual System

In the early 1980s, New Jersey established a child-study team pre-referral model. Five basic limitations of previous referral systems had been rated by the New Jersey Special Education Commission (1985):

1. Insufficient opportunity for teachers to participate in timely identification and prevention of school difficulties
2. Insufficient opportunity for team members to provide direct services to students, parents and teachers
3. Inadequate information used to generate referrals
4. Inadequate information used to formulate or revise IEP's
5. Unnecessary labeling of students

A recommendation placed emphasis on consultation, direct support to general and special education students, participation in effective programs and practices for the classroom and buildings. This study group also advised and recommended the

establishment of state eligibility criteria. It was felt that a child-study practice, through the process of consultation, could help reach a greater number of students and prevent students from unnecessarily entering special education. The eligibility criteria would further those efforts and allow only those with disabling conditions to be placed on the special education rolls.

Fuchs (1987) suggested a Mainstream Assistance Team Project (MAT) for the purposes of pre-referral assistance to teachers instructing non-disabled, difficult-to-teach pupils. MAT is based on least restrictive environment and preventative pre-referral intervention. Collaborative consultation and problem solving occurs through a process format utilizing written scripts based on behavioral consultation. The consultee is an active problem solver participating as a co-equal in designing intervention strategies. Decision making is based on empirical evidence. The four stages of MAT include problem identification, problem analysis, plan implementation and problem evaluation. Written scripts are utilized to ensure fidelity of the consultation process. The consultant follows these scripts to maintain a logical and quick-paced flow to obtain a succinct description of the classroom environment, qualitative and quantitative evaluation of the most difficult-to-teach students and logistical information.

In 1990, Chapter 653 and Chapter 138 in Massachusetts began to address concerns about the cost of special education. Answers to those legislative questions emphasized least restrictive environment, eligibility criteria, pre-referral practices and building-based support teams. A process of training began in Massachusetts on eligibility criteria, and the use of building-based support teams. The training ended with enactment of the Massachusetts Education Reform Act (MERA) of 1993. The legislated

study group for special education commissioned with MERA continues to struggle with increasing special education costs and a suitable funding formula.

Vermont

Kane (1991) reports that Vermont's Act 230 has come about due to increased cost and child counts in special education coupled with staff shortages, high levels of legal activities and a growing burden of paperwork. Act 230 is a legislative response to foster dramatic change leading to an educational restructuring movement. Act 230 calls for:

- The development of collaborative problem solving system in every school (Instructional Support Team)
- Support for these changes with training
- Funds to increase flexibility of special education funds
- Distribution based mainly on total enrollment rather than special education enrollment

Thousand and Villa (1995) provide a synopsis of inclusion in Vermont as working with 83% of the school children with disabilities involved in regular education classrooms. They state the national figures are 36%. Roach (1995) supplied the figure of 39.81% in 1992-1993. Thousand and Villa cite the development of the instructional support team and the homecoming project for part of this success. They view Vermont's Act 230, Vermont's first common core of learning and an emphasis on portfolio and authentic assessment as initiatives that kept the inclusion model at a sustained level. As they report, Vermont's Act 230 created a passion that inspired others to listen and serve children in the mainstream.

California

The establishment of building-based teams by legislative act can be traced back to California Assembly Bill 777 in 1981. This legislation was based on the desire to provide greater local flexibility in program management and to continue an emphasis on the integration of individuals with exceptional needs with "regular" pupils. AB 777 required school-based program coordination managed by a school site council composed of equal numbers of school staff, parents and students where appropriate. This is similar to the legislated school governance council of the Education Reform Act of 1993 in the Commonwealth of Massachusetts. The school governance councils in Massachusetts also require a community member which can represent business or other groups in the community.

Birdsall and Tolbert (1983) indicate the importance of child-study teams in addition to school governance councils to review and monitor individual cases and suggest directions to the larger building team. They conclude that such a model does not automatically refer the child for evaluation and inclusion into special education. They emphasize the Yale-Comer Program utilized in the New Haven Unified School District as a paradigm to be endorsed as a model for AB 777 implementation in California.

Monrovia Unified School District in response to AB 777 researched, implemented and studied the utilization of "the teacher support system." The system was seen by teachers as more supportive, efficient, clearer and flexible than previous pre-referral and referral practices. The Monrovia Program came about due to national and California advocate group concerns that the implementation of PL 94-142 mandates were a national

disgrace. Monrovia developed a child-study model as a means to help support teachers in educating a diverse population of students.

There is a need to ensure support from higher levels of administration if these pre-referral teams are to exist. Chalfant (1984) states that the plan for utilization of pre-referral activities should be endorsed by the superintendent and school board. The plan should be guided through the district's decision-making process by the superintendent. When the plan is accepted by the school board, the building principals will have the designated responsibility to insure that the plan is implemented and maintained. This line authority is viewed as significant in the research literature. Building-based teams and pre-referral activities can only be successful if fully supported by higher authorities within the school district (Chalfant, 1984; Comer, 1985; Oches, 1989; Stokes and Axelrod, 1981).

While Teacher Assistance Teams (TAT) came about due to the increase in referrals for special education, other areas of organizational concern have been addressed in education settings due to their development. These include isolation of teachers, the fact that "experts" don't have the answers to specific problems but often teachers do; inservice training is deficient; and continuing education is removed from the school setting. The TAT can be a focus of professional development. Student problems are becoming very complex and need more heads to derive answers, possibilities for communication within the school system are few (Oches, 1989). TAT's provide a vehicle for inter- and intra-school communication.

Teacher Assistance Team

The teacher assistance team as first described by Chalfant, Pysh and Moultrie (1979) and Chalfant (1984) was developed through a Federal grant from the United States Department of Education Office of Special Education, Division of Personnel Preparation. The teacher assistance team differs significantly from the multi-disciplinary team as described by Stokes and Axelrod (1981) in that its membership is comprised of only regular education personnel. Three teachers are elected from the staff and they comprise the teacher assistance team. Team members need to have status, respect and acceptance with the rest of the faculty. They must have the ability to express themselves. They should represent a cross section of subject areas and grade levels within the school (Bushy and Baker, 1979). They are joined by the referring teacher. The teacher makes the referral directly to the team coordinator. The team is based on the belief that teachers have the skills and knowledge to effectively teach many students with learning and behavior problems by working in a problem-solving process.

The goals of the model are as follows:

- To help regular education teachers individualize instruction to meet the needs of all students, normal, disabled and gifted
- To support teachers in mainstreaming disabled students
- To provide an efficient pre-referral screening for special education services

The teacher assistance team is designed to provide individualized and prompt support to teachers. The referring teacher engages the three member team in a structured process to conceptualize the problem, brainstorm solutions and plan an intervention.

Specialists can be invited to a TAT as deemed necessary. Parent(s) and the student are invited when appropriate. The principal of the building is not a part of the team.

Chalfant, Pysh and Moultrie (1979) suggested that the teachers in the specific buildings make specific decisions around the target population to be addressed by the TAT. In large buildings, they suggest more than one TAT to address target populations. The team should have a coordinator who is either team or teacher-elected or principal appointed. The principal or vice principal can also assume the coordinatorship responsibility. The coordinator's duties include:

- Handling case referrals
- Setting case priorities
- Scheduling meetings
- Consulting with referring teachers
- Arranging for implementation on recommendation and actions
- Insuring that follow up takes place

Team coordinators must be committed to the concept and have the ability to lead groups.

Chalfant (1980), Chalfant, Pysh and Moultrie (1979) and Chalfant (1984) indicate the following advantages in using the TAT process:

- Provides support for individualizing instruction for slow learners, gifted, mainstreamed and disabled students or any classroom concern
- Increases teacher's skills and comfort level dealing with children who have special needs
- Immediate response to classroom needs

- Three on one service
- Teacher competencies within building are shared
- Interventions are generalized onto other children in class
- Minimizes paper work requirements
- Very cost-effective due to the high cost of special education services
- Utilizes special education personnel more effectively
- Increases attention to referrals at the building level
- Provides an appropriate pre-referral mechanism which minimizes unnecessary referral
- Helps teachers understand the nature of a child's disability
- Creates a more positive attitude toward working with disabled students
- Helps teachers and parents to learn new and alternative methods of working with children who have presented with difficulties
- Gives moral and peer support to teachers who are facing more diverse and complex learners in their regular classrooms

The Massachusetts TAT Experiment

Massachusetts training in 1993, prior to reform, focused on a pre-referral team process known as TAT. The following information is adapted from Susan Schachter Rees and Amaral etal (1992). The team depends on the regular attendance of TAT members to share their expertise. Delineation along special or regular education lines was not emphasized as important. The effective communication of group members and the importance of group process were emphasized. Pre-meeting activities including coordination and role of a designated coordinator were placed as high priorities. The

coordinator was to establish the leadership for the team and merge communication and group process. The coordinator was to receive all significant data on the student, observe the student in class, assign the student's case to the TAT meeting agenda and ensure that all members of the TAT had received the student information prior to the meeting. The coordinator in charge of the TAT meeting runs the 5-step decision-making process, designates dates for follow-up meetings and gives a summary of the meeting to the teacher. The coordinator also provides support or resources, or delegates the same to TAT members, conducts a follow-up meeting with the student's teacher and runs the follow-up meeting. The TAT coordinator must be a person with strong leadership abilities, well respected by staff and have a flexible schedule to coordinate these activities. The consultation and facilitation skills of this coordinator are the key to the success of the process. The staff member must have insight into the clinical decisions related to educational and behavioral issues and, at the same time, possess the interpersonal skills to manage a group of professionals who are becoming a team.

Adoption of the TAT process in a school calls for the promotion of this process by the administrative leadership and school committee. Once a school decides to embrace the TAT process, a period of training should occur with potential team members and the full staff. Once a coordinator is chosen and the team is selected, the mission of the team should be defined along with the role of key players including the principal. In Massachusetts the process included the principal as part of the TAT team but not necessarily as the TAT coordinator. Training for staff on TAT procedures must occur with an outline of the pre-referral process and the forms to be utilized by teachers to initiate a TAT for a student or classroom issues.

Kruger and Sadeghpour (1992) outlined the importance of a school determining its need for a TAT process. This includes an implementation process containing a clear mission and goals, team composition, trusting environment, a structured process, high but realistic expectations, timelines for completing tasks, regularly occurring meetings and external support and recognition.

If these activities were adhered to in the organization of the TAT process, a successful implementation was considered more probable. Kruger and Sadeghpour (1992) also defined the importance of setting goals that would enhance the team's progress in the future. This goal setting process would allow members to become unified around a sense of purpose. The goals could act as a means to measure the effectiveness of the pre-referral team in relation to the full school staff, special education referral process or dynamics of the TAT. The quality circle approach of the established teacher assistance team would help produce the desired effects of an environment to explore the resources and personnel available in a school to effectively deal with staff, students and school needs.

Multidisciplinary Teams

The benefits to a school district in adopting multi-disciplinary building-based teams would appear to be incentive enough for their establishment to have occurred in the earlier part of the 1980s; however, research has suggested that this has not occurred nationally. In review of the situation in Massachusetts, the same analysis can be made. What appears astonishing is the fact that one of the first areas involved in the "Federal Government Initiative to Develop School-Based Staff Support Teams" was Massachusetts. This was part of the United States Office of Special Education Funded

Training Project to develop a blueprint for staff support teams in 1978. The Massachusetts Model was developed by Shari Stokes and Penny Axelrod at Tufts University. The key element of the model was the creation of a multi-disciplinary building-based staff support team. The team was comprised of personnel from various professions. Its purpose was to provide a weekly forum for one or more faculty to discuss topics in general or related to specific children and to receive consultation as well as follow-up assistance in serving children. Specialists, regular and special education teachers could join together and cooperatively plan for the education of a child. The focus of this team was to give support to staff members.

The advantages in establishing a building-based support team are best summarized by Stokes and Axelrod (1981) who suggest the following possibilities for the school which adopts a team model:

- A building problem solving model is adopted.
- Personnel and services are better utilized.
- Services can be better integrated.
- Collaboration is developed and embraced.
- Inservice training can be tailor-made to meet individual needs.
- Staff development needs are identified.
- Teaching skills are improved.
- The needs of all students are met.
- Teachers have a clearer understanding of the needs of diverse learners.
- Reduction in inappropriate referrals to special education.
- Positive parent involvement can be facilitated.

- Community support can be increased.
- Improves atmosphere of professionalism.
- Crisis normally faced by the principal is reduced.
- Peer support is encouraged by promoting networking for new ideas and ways to problem solve.
- Potential lawsuits can be avoided.
- It is a cost-effective mechanism.

Some of the possible disadvantages of the building-based support teams have been reported by Horvath (1980) and Roody (1981). These include the following concerns:

- Another team, especially another special education team
- Scheduling; no time; when will the team meet
- Teachers will not bring their potential difficulties to the attention of their peers
- The team needs monitoring, support, supervision; evaluation, and follow through
- There are some costs – incentives to teachers, substitute teachers, training costs and materials
- Potential hard feelings with special education can occur.

Yale-Comer Model

The Yale-Comer Model development does hold some basic truth in today's society that needs to be addressed according to Comer (1985) and Bogen (1991) – the advancement of transportation and media have changed the face of the community school. No longer does the small community exist where the population lived, worked,

communicated, and passed on its values to its children in the community school. People live, work and gain information from places far from the community. The inter-connectiveness between the home and the institution of communities and schools was lost. The rules of the school and the rules of the home no longer match. This mismatch is often labeled a problem. Trust is lost. A cycle of difficulty is created which causes a downward spiral. The social network of the community and the school no longer can agree and blame occurs among the community, home and school. This Yale-Comer model lends itself to the constituent building of core values and beliefs which can guide a district's attempts in having a community of learners.

Clearly, in today's financial climate and with the emphasis on accountability, one sees this lack of trust in the schools. The lack of trust is often pointed at special education and its high cost. Even within the institution of school, blame is laid upon professionals and parents at the empire building of special education. Special education controls the money and the programs that cause teachers and parents to continue an upward spiral of referrals to gain the advantages of the special programming for their children. The Yale-Comer Model also addresses this spiral by being proactive on the issues of intervention and prevention by viewing each case presented at the Mental Health Team level as indicative of possible global school issues which should be investigated. The presence of an MHT member on the SPMT allows for communication that can be more globally addressed if, in fact, a problematic pattern materializes that needs the full attention of the school. Many of the reasons given in Donahue and Gross (1991) as reasons for increased numbers of students in special education can be areas addressed by the SPMT.

Several reasons why students with special needs are placed in restrictive programs which have influenced some of the direction of the Education Reform Act and regular education initiative are:

1. Limited regular education support services
2. Increasing class size
3. School policies such as ability grouping, tracking and grade retention fail to accommodate student diversity
4. Inflexible school schedules inhibit free movement between regular and special education
5. Lack of time for teachers to collaborate and solve problems
6. Limited opportunity in the regular curriculum for individual instruction
7. A lack of planning for integration at special education students' team meetings
8. Untrained or under-trained school personnel unable to accommodate student diversity and limited professional development
9. Lack of adequate financial support for schools and activities such as staff development

Bogen (1991) gives the following descriptions, structure and functions of the team. Staff of the team can include anyone in the building who has knowledge of the mental health needs of the student. Team membership is multi disciplinary and includes special education personnel, social worker, school psychologist, counselor, nurse, speech and language therapist, Chapter I teacher, principal and any other support staff. One member of the team represents the team on the School Planning Management Team. In

this fashion, the school governance body is able to receive vital information about the school when the Mental Health Team identifies a global school-based problem and integrates mental health principles within the functioning of all school activities. The team serves individual teachers by suggesting ways to manage problematic behaviors or trains personnel in providing intervention to the child.

The Mental Health Team meets on a weekly basis and responds to referrals from teachers, other school staff and parents. The team's discussion of the case is similar to a mental health clinical case conference. The referring party may receive from the Mental Health Team a variety of services that include immediate consultation, extensive consultation, direct services to the child and classroom observations. The Mental Health Team uses a diagnostic/prescriptive model that is designed to provide intervention for individual students. The interventions are intended for in-class implementation and not for pull-out programs. The team monitors the interventions to insure that progress continues or revisions occur in the programs. The team documents in a log the cases handled, actions taken and follow-up status. A case manager can be assigned to individual cases. Parents are viewed as partners in developing individual student programs. This provides a way for parents to give input and provide support for interventions and strategies. The Mental Health Team also establishes community liaison with central office personnel and services agencies in an effort to provide quality programs for students.

As indicated, the Mental Health Team is part of a larger complex organization in the School Development Plan as suggested by the Yale-Comer Model. As Massachusetts moves toward school-based governance councils, the Yale-Comer Model should be

considered in this powerful paradigm shift establishing the building staff, administration, community and parents of development into a decision-making body. Decisions are made in the best interest of the child(ren). The joint development of building-based governance teams and pre-referral teacher support teams are addressed in the Yale-Comer Model. The Mental Health Team is a multi disciplinary support team that utilizes collaboration and consultation to plan various pre-referral interventions. An analysis of the model from its inception in 1980 to 1997 suggests that the utilization of mental health language has been replaced by educational terminology more suited to the classroom teacher. The concepts are more inline with current restructuring reform practices, with an emphasis on immediate responsiveness, collaboration and process consultation. Schools could utilize the support mechanism of the MHT or other TAT, child study models and school planning management team for school governance to occur as suggested in the Education Reform Act.

Introduction to Site-Based Management

As we move to discussion of Education Reform School Governance Councils, let us review team processes in site-based management, its connection to total quality management, quality circles and role in the change process.

Site-based management (SBM) research provides virtually no evidence that SBM translates into improved student performance (Oswald, 1995). Research on the area of site-based management is difficult to measure due to the variations in practice once implemented. The proponents of site-based management state that positive feelings by teachers towards school leaders will occur and staff will appear committed toward school goals. Parents and community members will be more supportive of school because they

are involved in the overall decision making. Wohlstetter (1994) states that improving school performance may be an unrealistic expectation for a governance reform that alters the balance of power within educational systems. Site-based management should not be viewed as an end product but the start of a process that contributes to school improvement. High performing site-based management teams have the most profound effects in those schools which are engaged in other important restructuring activities.

Oswald (1995) reports increased teacher professionalism and increased community engagement as commendable goals of site-based management. It is a complex undertaking requiring policy revision and redefining of lines of authority and new roles for school committee, central administration, principals and teacher union leadership. Some of these changes should focus the energy of the district on the capacity of the school to redesign itself so that educational practices are created that provide high expectations and standards for all students. Trubowitz (1995) states that site-based management is not a cure all, but is much more than a new organizational structure. It is an ethic that calls for mutual trust, patience, persistence, hard work, contributions of time, tolerance of conflict and the ability to intermix as individuals rather than as representative roles. Dolan (1994) calls for a mutual agreement by the three anchors of the district: superintendent, school committee chair and union president, to work toward the new organizational structure and site management system.

Collins and Porras (1991) report that the past decade has seen many organizations create and believe in the importance of vision. One factor driving this shift is the move towards decentralization and site-based management. While accelerating decision making, stimulating innovation and increasing the sense of responsibility, site-based

management has caused problems. The loss of a coherent and coordinated effort is perceived by members of the organization. It becomes less clear as to the direction in which the organization is headed. The development of a shared vision is a response to this problem.

Total Quality Management Defined

Total quality management is a philosophy that empowers people to make continuous improvement. Improvements to be made are based on facts as defined by the customer. Improvements can be made to products and services through the study of organizational processes and systems. Total quality management requires leadership.

The word "total" means everyone in the organization is involved in creating and maintaining the quality of the products and services offered by the organization. "Quality" development focuses on meeting customer needs. Restructuring that is aligned with the customer's perception helps define quality in the organization. "Management" is the role of all people within the system. Directors and doers alike, work on the continuous improvement of the system.

Gabor (1990) noted that W. E. Deming's vision was that organizations work on the understanding of the system; in doing so one could achieve continuous product and process improvement. She described the six principles of Deming:

1. Quality is defined by the customer, anticipated for future needs
2. Understand and reduce variation in every process is important
3. Commitment of top management, consolidation of goals within the context of an organization
4. Change and improvement must be continuous

5. On-going training and education for all is a prerequisite
6. Performance ranking schemes can impede natural initiative, create loser and winner battles, morale suffers and the system is perceived as unfair

Deming's view of management was readily based in psychology of Maslow's hierarchy of needs and Herzberg's extrinsic and intrinsic values which improved the work place.

Total quality management is emphasized by Deming as a system of profound knowledge which includes an appreciation for a system, some knowledge of the theory of variation and a theory of knowledge and psychology.

The three themes of the Deming philosophy include: long-term thinking and behavior calls for leadership obsessed with quality and customer satisfaction. There are consistent investments in training. Barriers to continuous improvement are eliminated. There is fostering of pride in workmanship and joy for learning. Congruent interests for all members of the organization are addressed through teamwork. Leadership fosters a willingness to accept responsibility for improvement (Hyman and Lawrence, 1993).

Quality Circles

Quality circles like school governance councils are usually composed of 8 - 12 participants. Their participation is voluntary. The circle meets for one hour per week on company time. Every participant must speak up in "round robin" fashion with options of saying, "I pass." The circle is usually led by the immediate supervisor. A recorder takes notes on large newsprint. The newsprint is saved and the recorder role alternates each meeting. The quality circle has a process which includes brainstorming, building on priority problems and establishing performance objectives. Deciding upon the

responsibility of the circle to the issue which is presented is an initial activity. Data gathering strategies are decided upon in the early stages of problem solving. Data is analyzed, presented and then solutions are prepared for a specified follow-up meeting (Giordano, 1987; Glaser and Van-Eynde, 1989; Harris-Wilson, 1987; Miller and Nelson, 1987). These are many of the areas stressed in development and procedural guidelines for school governance councils.

Quality circles offer a concept to help bring people together so that they will become effective communicators and efficient workers able to transmit, interpret and relate to others. Accordingly, there is a real possibility for improvement in human relationships between administration and staff when management commits itself to improving the psychological health and the education of the work force (Harris-Wilson, 1987). She indicates five necessary characteristics for building a productive quality circle or team:

1. Commitment to common goal
2. Trust
3. Open communication
4. Conflict management
5. On-going assessment

The Change Process in SBM Schools

The process of change towards teams, site-based management and restructuring of our schools can best be understood by reviewing the major elements of establishing a culture dedicated to the learning community. The following change process and

characteristics of actively restructuring schools are provided as a means to measure the process in place to create systemic change.

- Decentralizing authority or power to schools will not automatically lead to the effective utilization of that power. Authority must be accompanied by a principal who facilitates participation, a school faculty with few divisive factions, and a general desire of stakeholders to be involved with reform.
- Schools take time to learn how to function within team and SBM. In the beginning, decision making may focus on issues that are more trivial in nature, such as access to the copying machine before moving to more complex issues, such as curriculum and instructional practices.
- School culture is critical to the change process. Schools achieving instructional change created cultures characterized by an atmosphere of collaboration and trust among staff and a focus on continuous improvement. Greater levels or participation by staff and parents, as well as structures that include all stakeholders in the decision-making process can facilitate improvements in school culture.
- As part of the school change process, individual behavior may also change. Behavior changes include talking about and observing teaching practices, maintaining higher standards of performance, seeking out new ideas and actively becoming involved in school-wide issues.

Facilitating Change

The district managers (principals, directors and teams) must function in a highly adaptive system and personalized way if change is to be facilitated most efficiently and

effectively for the individuals and the organization. Changing at the onset is fraught with uncertainty, confusion and vagueness as the organization is experiencing transition (Vogt and Griffith, 1988). The organization cannot continually be in the process of change. It requires a period of equilibrium to run smoothly. The refreezing process stabilizes change at a new state of equilibrium. The district managers and teams must plan their refreezing process. This cannot be left to chance (Vogt and Griffith, 1988). This should alert all of us to the importance of implementation time, collaborative planning and follow-up support so that mutual adaption to the innovations of reform and restructuring can occur with more success than they have to date.

The Reform Acts do call for a simultaneous and continuous change. It is important to realize that some of these changes may have counter-effects on one another as well as on individuals and various aspects of the organization of the school. Buller (1986) in review of Lewin's equilibrium analysis of the dynamics of change reminds us that personal, interpersonal and organizational factors will force against each other and bring about disequilibrium which needs to be explained and understood as forces drive against each other. The Reform Acts, if given as a decree or mandate, might have the advantage of accomplishing instantaneous implementation and awareness of the state's priorities, but will not consider the process of change or account for the collaboration necessary to bring about change in the school culture. Fullan (1995) is critical of education change efforts which are numerous, fragmented and create discontinuity. Discontinuity is a component of change according to Handy (1989) due to the magnitude and speed of change. Change will occur but predictions as to direction and outcome are less certain.

In considering the Change Study as discussed by McLaughlin and March (1978), one should assess the important features of collaborative and process consultation in assisting teachers in the follow-up necessary for acquisition of innovations. Adaptions that occur early in the implementation of projects such as those suggested in reform and restructuring activities would best come from collaborative planning with all constituents so there can be a "sense of ownership by all involved in the various projects and innovations." The school's leadership must support these reform restructuring initiatives. The Change Study indicates a correlation in project goals achieved, student improvement and the project director's involvement. The attitude of the building principal is crucial to continued long-term success of the project and maintenance of the innovation. Projects that have the principal's support will most likely succeed. Principals do influence the climate of their building making it more readily available for change or resistance. This is vitally important to consider as the Education Reform Act brings the principals to the forefront as institutional and educational leaders in managing the school's process in staff development, curriculum design and innovations that bring about inclusion and restructuring initiatives.

Teachers are individually motivated and need to be considered as individuals. Hall (1980) developed a Concern-Based Adoption Model which could help supervisors or teams involved in implementing and maintaining an innovation determine the stages of understanding, periods of comfort and knowledge people have about an innovation. Team members have varying ability and skill to utilize the process. This information provides the opportunity for reviewing personnel through Hall's stages which individual team

members and staff may go through as they enter a new innovation such as at school governance council or building-based support team.

The change phenomena was described by Robert Lacoursiere (1980) in his stage development theory. He described the initial state of orientation, in which we have little skill but high morale followed by a period of dissatisfaction where productivity and morale fell off. If there is resolution, the high productivity can return. This information was utilized by Donald Carew of Blanchard Associates in describing his theory of the development of high performance teams and the assistance required of the team supervisor by team members. Stokes and Axelrod (1981) also used the information to guide the introduction and development of multidisciplinary teams. A leader can provide the appropriate amount of direction, coaching, support and delegation to create a climate in which teams working on a task can grow and become productive.

The implementation dip is another theory in relation to change (Fullan, 1994). The implementation dip, like other stage development theories, indicates to us that in order to go forward in an innovation, there must first be a period in which production drops off. Individuals can learn skills and have high morale before attempting an innovation, but they will have a fall-off in production. When the innovation is better understood, it can then be assimilated for utilization in the teaching and/or learning experience. This phenomena of the implementation dip can be compared to Hall (1980) and Lacoursiere's (1980) work in relation to the mechanical use of innovation and the individual's personal concerns about change. Leaders, individuals and groups may have needs, as based on Lacoursiere's model, as described by Carew and Carew (1988), in relation to the utilization of the innovation, or the question that a team or supervisor may

ask in regard to team development as described by Stokes and Axelrod (1981). The ability to evaluate team development can be based on occurence of team activities in the area of process and dynamics as demonstrated by Carew and Carew (1988), or in assessment of behaviors at varying stages as developed by Stokes and Axelrod (1981).

History of Reform and Elements of Review by Councils

Commonwealth of Kentucky Education Reform Act of 1990

The premise of this ground-breaking legislation is that those closest to the students (teachers, parents and school administrators) have authority to make school-level policy decisions in exchange for assuming responsibility for student performance. School-based decision making is KERA's vehicle for delegating authority to school sites (David, 1992). KERA mandates that one school in every district with more than one school had to establish a school-based decision-making council by voting or through school board election. In the first year of implementation, 168 districts out of 176 established at least one site council. Three hundred twenty-seven (327) councils were reported to be active with 287 schools electing to use site-based management and 40 others were established by the school board. David (1992) reports that in June of 1992, 500 Kentucky schools were operating site-based management councils.

The Prichard Committee for Academic Excellence continues to follow the progress of site-based management in Kentucky schools providing inspiration, training and conferences on the required skills associated with site-based management. The Prichard Committee reports authored by David (1992) and in the Prichard newsletters "Perspective" provide the opportunity for newsworthy issues associated with council activities and accomplishments to be reported. Prichard reports site-based management is

a way to sustain reform and keep it from the stop and start process associated with the last two decades of reform. They also see this as a means to re-engage families with their children's schools.

Weston (1993) reports in a Prichard publication that councils should be involved in decision making and policy as related to curriculum, opportunities for staff, assessment of students, school schedules, utilization of space, instructors' practices, discipline, extracurricular events and technology utilizations.

Problematic areas for councils in Kentucky include:

- Lack of understanding, as to who has the final word
- Lack of meeting notification
- Lack of teacher representation (real and perceived)
- Lack of continuity with one team council membership
- Lack of clear stated vision for the district
- True investment of professional staff
- Collaborative decision making and consensus problem solving training is required and never stops
- Must be part of the school culture

Illinois - The Chicago School Reform Act (Highlights of Public Act 85-1418)

The Chicago School Reform Act, Public Act 85-1418, also created local school councils with composition selection criteria suggested in the following manner:

- Two teacher representatives shall be appointed to the council by the board of education after an advisory poll among school staff.

- On a date in October set by the central board, elections for parent and community representatives and the advisory poll for teacher representatives takes place in all-day balloting at each school.
- The local school council shall appoint one of its parents or community members to serve as the council's representative on the subdistrict council.

The local school council's powers and duties include:

- To directly appoint a new principal
- To negotiate and approve a performance contract with the principal
- To evaluate the performance of the principal
- To help develop and to approve a budget
- To initiate removal of the principal "for cause" if he or she fails to implement the school improvement plan or carry out the provisions of his or performance contract
- To remove non-attending members
- To advise the principal concerning attendance and disciplinary policies
- To evaluate the allocation of teaching resources
- To shift funds in the budget
- To monitor and receive reports on the expenditures of internal accounts
- To receive training in school budgeting

The school council is responsible for a school improvement plan:

- A three-year school improvement plan is developed and implemented at each attendance center. With leadership from the principal, the local school

council helps develop and approve the plan. The council also works with the Professional Personnel Advisory Committee on this plan.

- The plan focuses on bringing student achievement, attendance and graduation rates up to and above national norms. The plan must present a component that prepares students for further education and employment.
- The plan analyzes the school's strengths and weaknesses.
- The plan spells out any staff training.
- The plan strategies steps that will be taken to involve parents and community and business groups.
- The principal has the primary responsibility for directing implementation of the plan, with the Council monitoring its implementation.

Massachusetts

Section 53 of Chapter 71 of the Massachusetts Education Reform Act of 1993 calls for the establishment of a school council at each elementary, secondary and independent vocational school in the Commonwealth.

The 1993 membership composition of each council had to have the following categories of constituents: a principal who serves as one of two co-chairs; teachers at the school; parents of students attending the school; at least one student for any school that contains any of the grades nine through twelve; and "other persons" who are not parents or teachers or students at the school.

The number of parents has to equal the number of teachers plus the principal. The size of the council is up to local discretion, provided that the number of "other persons" does not exceed 50 percent of the council's membership. School councils should also be

broadly representative of the racial and ethnic diversity of the school building and the community. The other co-chair is elected by the full membership at the council's first meeting each year. Parents are selected by their peers in elections organized by the locally recognized parent teacher organization. Other persons/community members are recruited by the principal from such entities as municipal government, business and labor organizations, institutions of higher education, human services agencies, or other interested groups. The duties and responsibilities of councils consist of the following: councils are to assist principals in adopting educational goals for the schools, identifying the educational needs of students attending the school, reviewing the school building's annual budget, and formulating a school improvement plan. The plans address the following: class size and its impact on student performance, professional development, enhancement of parental involvement, school safety and discipline, school climate, extra-curricular activities, means for mainstreaming students currently assigned to separate programs, time on learning and any other areas determined by the principal in consultation with the council. In addition, in school systems with language minority student populations, the plan should address the need for teachers' professional development on second language acquisition and on working with culturally and linguistically diverse student populations. Each council's school improvement plan is to be submitted to the school committee for review and approval each year. If the plan is not reviewed within thirty days of its submission, it is considered to be automatically approved. School committees also have to approve representative processes for the election of parents to the council in instances in which there is no parent-teacher organization to conduct such an election.

The Yale-Comer Model

Social competence and psychological well-being have seldom been used as measures of a healthy educational program. These dimensions have often been regulated to secondary importance within the school. The Mental Health (MHT) and School Planning and Management Team (SPMT) are the site-based management teams as developed by James Comer at the Yale Child Study Center in 1980. This is a highly formalized process which has been implemented throughout the New Haven Public Schools as well as 200 schools across the nation (Birdall and Tolbert, 1983; Bogen, 1991; and Comer, 1985). The Mental Health Team is a significant part of the Yale-Comer Model, known as the School Development Program, and works directly with the School Planning and Management Team. Comer stresses the importance of restructuring school and classroom climate and activities to meet the idiosyncratic needs of children. The School Development Program Model proposes that basic fundamental changes must occur within the school in order for permanent positive improvements in behavior and achievement to be realized.

The model calls for the synergistic relationship among school administrators, staff and parents in which they all have input into the decision-making process which impacts school climate and ultimately student achievement (Bogen, 1991). This is a proactive building-based team concept based on theories of the psycho-social relationship and cognitive physical developmental levels of the child. The opportunity exists to prevent potential problems from developing into crisis. The purpose of the Mental Health Team

(now known as the student, staff assistance team) is to coordinate and integrate the work of the mental health personnel within the school. This allows for individuals who are referred to the team to be fully understood as to their specific needs or for global issues to be understood by the team and brought to a School Planning Management Team for consideration of broader based action to occur in the schools.

The author feels that the Yale-Comer Model School Development Plan should be considered as schools across Massachusetts embark on building-based management. The following are explanatory segments of the School Planning and Management Team adapted from Comer (1985) and Bogen (1991).

The SPMT is the place where adult caretakers – teachers, parents, administrators and support staff – come together to pool their wisdom to plan the social, academic and staff development programs that will improve teaching and learning. Representative groups report to their constituents between meetings. The guiding principles of the SPMT include no fault (blaming), collaboration, consensus and maximum use of resources. The responsibilities of the SPMT include establishing policy guidelines for the school program. The SPMT responds to school concerns directly or delegates the response to a subcommittee that will report back. The SPMT carries out systematic school planning related to school climate, academics, staff development and public relations. They plan the annual school calendar that integrates social, academic and staff development functions. They monitor and evaluate all school programs. They promote effective resource utilization through the coordination of program implementation. The focus of SPMT meetings is on improving student psycho-social functioning. Meetings focus on the social relations among adult caretakers. The SPMT works on improving

curriculum and instruction. They create effective staff development and parent training programs. They create effective public relations through the public relations subcommittee. The SPMT monitors the comprehensive school plan from development through implementation and evaluations.

The SPMT has several operating subcommittees. The membership of these subcommittees is composed of individuals not serving on the SPMT. However, subcommittee chairs should be members of the SPMT.

The SPMT subcommittees should include the social committee which addresses school climate, classroom climate, staff morale and student/social development. The public relations committee coordinates the school's public relations campaign, handles requests for information about the school, oversees the school newsletter and general communication. The Staff Development Parent Training Committee identifies staff and training needs based on the Comprehensive School Plan, the request of staff and parents and the changing needs of the school.

The Curriculum, Instruction and Testing Committee, which develops relevant performance-based curriculum, works with the Staff Development Committee on instructional issues, monitors testing reports and classroom grades and develops prescriptions for academic improvement.

The School Planning and Management Team establishes policy and develops a comprehensive school plan to substantially address curriculum, social development, climate, staff development and public relations. The SPMT coordinates the activities of all individual groups and programs in the school and works with parent governance groups to plan an annual calendar.

The SPMT elects a chairperson from its membership. The SPMT chairperson develops an agenda for meetings with input from the membership. The principal is not the chairperson to insure that constituent membership have an open forum at the meetings. The chairperson begins and ends meetings on time; the meetings are conducted biweekly. The SPMT monitors the progress made towards the Comprehensive School Plan on a monthly basis and oversees the goals that address school climate and academic success. The chairperson leads the team through a structured problem solving approach characterized by straight, descriptive talk that is non-judgmental. Participants are expected to attend all meetings and operate by the set of procedures established by the Team. Team members work collaboratively to solve problems and are encouraged not to hedge in identifying a problem. Team members must come to a consensus on a solution to a problem. In this consensus, it is understood that a win-win situation is set up. "Votes do not occur." It is felt that votes would set up a win-lose situation and then alienate some constituent members.

The comprehensive school plan should be developed by the SPMT; the school staff should receive a copy of it. Parents should receive a summation of the plan. The comprehensive school plan addresses goals for improving student performance in reading, language arts, mathematics, science, social studies, fine arts and physical education. The target goals are based on an analysis of classroom performance, letter grades, promotion and retention, as well as standardized (criterion- or norm-referenced) test.

Social goals are also addressed in the school plan; these include a school calendar with activities for students, parents and school staff. These activities include social goals for students that are developmentally appropriate and social goals for adult stakeholders.

The staff development goals of the comprehensive school plan should address the ability of the school staff, parents and community to carry out the academic goals.

The Role of Parents on Teams

Comer (1985) views parent participation in levels:

Level I	Parents selected and elected to serve on the Governance Management Group.
Level II	Parents volunteer to work part-time in classrooms or do work part-time in the schools
Level III	Broad participation in projects in successful collaboratively-planned school community activities

Burrello and Stephenson (1981) suggest that the timing be considered to effectively bring a parent into a team meeting. They also point out the critical need to involve a parent on various teams operating within the school. They feel that parents appointed to teams should have criteria which includes prior involvement on PTA or volunteer experience in the school. The parent should also be highly interested in school life and have positive relationships within the community. They emphasize the importance of parent training as we ask them to participate in team activities.

Van Devender (1988) suggests a three-step approach toward involving parents in the schools.

Step One: Motivation – Parents and teachers need to communicate so that their children can see the positive attitudes that allow them to collaboratively work together to benefit the child's school experience. In this fashion, the child becomes more positive and motivated toward school.

Step Two: Participation – Participant teachers should encourage parents to visit schools or visit parent centers in the school. In visiting, the parent becomes involved in the school. Children become more involved in the school process and do better because of this parental participation.

Step Three: Communication – Open communication between parent and teacher is strongly suggested with phone calls, notes and classroom newspaper. Van Devender also suggests a minimum of three parent meetings a year starting with an orientation meeting at the beginning of the school year and two progress meetings.

Parents are viewed as major contributors in the decision making as advisory board members to assist schools in determining ways to more effectively involve parents in their children's education. The same is true of current education reform acts in many states which provide a broadened governance base in our schools and call upon the involvement of parents. (Chicago School Reform Act, 1985; Kentucky Education Reform Act 1990). Goals 2000 identified parent participation as an aim of Federal legislation. The restructuring of Title I in 1994 and IDEA Amendments of 1995 are firm in this parental commitment.

The Role of Principals on Teams

Chalfant, Pysh and Moultrie (1979) question whether the principal should be a participant on the team. They may feel this is a sensitive issue due to the principal's role

as evaluator of the teacher's performance. It is felt that teachers would not be able to open up with the principal present. The teacher may not be able to admit difficulty with a child. They do see acceptance of the principal as a team member as a positive step in the principal carrying out his or her role as an instructional leader. Chalfant, who appears to be the most ardent of researchers to report concern over the principal's role, indicates that principals can be a member of a building-based team and sees them as vital in gaining support for the team and pre-referral activities if they are to be successful (Chalfant, 1984).

Bushey and Baker (1979) indicate that part of the principal's role is to present the administrative viewpoint as clearly as possible. It is possible to avoid the emphasis of the principal's expressions being interpreted as edicts. It is important that what the principal has to say is recognized as only one viewpoint. This will allow communication to remain open and participants may continue to collaborate in their efforts as mutual problem solvers. They feel the principal's presentations will allow staff to see that the principal does not have all the answers. This expectation shift is of major significance as the team learns to work together.

Comer (1985) indicates that the principal's role is essential on the team, but the principal should never be appointed as the chairperson. It is felt that the constituents would not be fully heard if this were to occur. Comer also addresses the fact that the principal should have the responsibility of developing an agenda but do so through an Agenda Committee. He feels the principal should always explain the activities taken, especially if there is deviation from the agenda or a decision of the Management or Governance Committees. Comer feels that as long as parents and teachers have been

involved in the process of decision making, then there will be rare resistance for unilateral decision by a principal.

Rucker and Vautour (1981) and Harrington and Gibson (1986) give further support to the importance of the principal in the success of pre-assessment activities. Careful analysis by Rucker and Vantour (1981) indicate that data suggesting special education personnel chair the team can be distorted and the expertise required to chair the team is that of the principal. Harrington and Gibson (1986) state in their study that the subjects stressed unanimously the importance of the attitude of the administration to the success of the pre-assessment team process. Each seemed to agree that when the administrator is concerned, cooperative and encouraging, the team process works best. Stokes and Axelrod (1981) indicate the presence of an administrator is important in the initial stages of the implementation of a team. The principal's involvement demonstrates institutional support. Without this visible support, they see the team as severely disabled and may be totally curtailed. Like other authors, they caution us regarding the perceived power of the principal. The team must not be seen as an arm of the principal, but rather as a process to which administration contributes in any manner possible.

Greenburg (1987) gives the following issues and functions for including the role of the building principal in the team process:

- Special education leadership role is in a state of flux.
- The principal is the key leader in delivery of service at the building level.
- The principal must increasingly resume responsibility for the students in their building.

- Principals should gain support from specialists and general teachers to provide for students in the least restrictive environment.
- A clear role must be defined between the regular and special education administrators.

Chalfant (1980) indicates that this shift to a building-based team process will allow administrators to:

- Shift staff concerns to positive constructive problem solving
- Utilize staff more effectively
- Improve staff communication and skill
- Save time and money by reducing referrals to special education

Teacher commitment is often motivated by the commitment of principal, project planning strategies and the scope of the proposed innovation. Teachers need to be involved in the planning of the innovation.

Teachers may not commit to an innovation if the principal is not committed. This is why it is vitally important to gain the support of the superintendent when implementing an innovation. This principal has to be a part of the initial stages of innovations such as mainstreaming practices, pre-referral activities and building-based support teams if we anticipate that teachers are going to buy into these innovations. Teachers need to trust in the innovation and the genuineness of commitment by those viewed with authority.

Rallis (1993) reports that administrative support can promote positive utilization of building support teams. The principal can play the role as mediator in the struggle between regular education and special education. Principals help to create, eliminate and support the adoption and use of team process. She places significant emphasis on the role

of principal as a leader in schools that have functioning teams that are thriving. These principals have also provided instructional leadership that has helped their schools adopt various innovations. These thriving schools also adopt the belief that all students can learn. The principal has a key role in fostering utilization of innovations and adoption of cultural norms. The positive attitudes and behaviors of the principal as a team member of support can enhance the cultural acceptance of team and restructuring practices.

Rallis (1993) reported the ability to create shared values as a hallmark of principals, as leaders in schools that had functioning building-based support teams and moved to active inclusion practices.

In building-based teams, Knoff (1983) reported that the chairperson of the team must analyze the patterns of disportionality of power. Power must be minimized in members that are too strong. The voice of other group members must be heard. Disagreements can occur when power is unbalanced among group members. Conflicts of this nature and others must be resolved if the group is to have success.

It has been suggested that roles within the group rotate among its members. This would allow for the balancing of power and leadership roles and establish interdependency. Several roles are suggested. These include:

- Facilitator: encourages each member to participate
- Recorder: prepares flip charts, reports on agenda
- Timekeeper: monitors the time allotted for each agenda item, encourages to stop activities at agreed upon times

- Observer: records team members behavior which promotes task achievement or maintenance of relationships. These observations are discussed with team members at the end of specified periods.

It is understandable why there is concern about the role of the principal on the team (Chalfant, Pysh and Moultrie, 1979). The power of position could be counterproductive to good group process. However, placed in one of the aforementioned roles, the principal would have specific tasks that would promote interdependence with other team members. The principal has a valuable role to play in support of the teams acceptance and in providing information concerning the district's resources and policies as well as leadership and direction on common goals as identified by the team. A balance of power and acceptance as a team member carrying out a role must be established.

Building-Based Support Team Activities

Rhode Island

The CAST program of Rhode Island is a group of colleagues in each building providing support to teachers in the problem-solving effort. This process involves the special education staff. The process was developed by the Rhode Island Ad-Hoc Advisory Committee on Learning Disabilities which was formed in response to nationwide concern over the dramatic increase in the number of students being identified as learning disabled.

CAP (Classroom Alternative Process) recommendations evaluated by Sharon F. Rallis (1989) listed the activities and teams that should be developed in each Rhode Island school. CAST is the Rhode Island Teacher Assistant Team Model.

The following conditions exist in schools where teams function:

- Administrative support for programs
- Building principal cares about teachers helping teachers solve problems
- Principals facilitate the team process
- Resources are available or people are willing to locate them
- The building develops an atmosphere of positive collegial relationships
- General option or alternative and general support services exist or can be created

The trust that must be built in an environment is emphasized as well as the reflective collegial atmosphere we hope to form in a culture which emphasizes continuous improvement.

Functioning teams/thriving	Work around less than adequate schedule Supported by regular education Vital to staff Team exhausted ideas
Functioning teams with problems	Not seen as fabric of the school Special people Disinterested
Non-functioning teams/ working to function	Lack of training and expertise
Non-functioning teams/not working to function	Time consuming Omits special education expertise Delays evaluation process Too formal a process Need for more training Not always the best place to discuss specific problems Are disillusioned Environment not ready for the TEAM process

The single biggest barrier to non-use of building-based support team	Lack of resources Lack of program or curricular options

Training of staff was emphasized in the CAST process and included an understanding of CAST membership and their role and responsibilities including:

- Effective communication skills
- Effective collaboration and consultation skills
- Identify problem and problem solving skills
- Collecting and evaluating opportunities regarding change
- Understanding academic and behavioral interventions

Among the collaborative/consultant skills, according to the Rhode Island plan are:

- Sensitivity to consultee's perspective
- Awareness of factors that positively affect communication
- Realistic goal setting
- Ability to predict common dilemmas and stalemates
- Ability to avoid mistakes in practice
- Skills in interpersonal communication

Massachusetts

Schacter-Rees and Amaral etal (1992) suggested the following activities at the building-based team meeting in their training materials for the Massachusetts Teacher Assistance Team process:

- Team is oriented to the problems and establishing objectives
- Team reaches consensus about the nature of the problem
- One to two objectives are negotiated with referring teacher

- Alternative solutions are brainstormed (problem-solving discussion)
- Referring teacher selects methods he/she would like to try
- Responsibility is fixed for carrying out the recommendations
- Follow-up plan for support and evaluation is established
- Documentation is completed (this includes recording or recommendations and how the recommended intervention will be evaluated)

It is suggested that the team meet once a week for 50 minutes or twice a week for 30 minutes. Referrals can come from a student's parent(s) or any staff member. Pre-meeting activities include:

- Referring person fills out referral form
- Team coordinator checks for completeness
- Team members read referral and request any further information or clarification
- Team members may discuss referral among themselves
- Any necessary classroom observation is made
- Prepare recommendations for the team meeting

Early Research

The Staff Support Team's functions provided by Stokes and Axelrod (1981) include:

- Immediate crisis intervention
- Short-term assistance
- On-going support
- Brainstorming of ideas (interventions)

- Location of various resources
- Provide a multiplicity of services developed through on-going staff discussion
- Inservice training

Collaborative consultation is seen as one of the operating procedures of the team. A consultant is assigned to follow-up. The regular classroom teacher is a part of the planning and follow-up procedures. Any member of the team can be a collaborative consultant. This allows for the continuing theme of equity for all team members. (Stokes and Axelrod, 1981).

The organization of the team is also critical. Stokes and Axelrod (1981) highlight the following areas:

- Team meeting times should be convenient to all staff.
- Coverage for classes must be arranged (if necessary).
- A consistent schedule must be established.
- An agenda must be set.
- The team must be flexible and meet more often (or longer) if a backlog occurs.
- Meetings should have an hour duration.
- No more than two cases should be discussed.
- A facilitator should be appointed to:
  * set schedules and agendas
  * coordinate needed data
  * contact appropriate personnel
  * foster a sense of equity at meeting

Analysis of Stokes and Axelrod (1981) data indicates the team must be visible, accessible, competent, non-intimidating, sanctioned by those in the power structure, self-supporting and offer a viable service. The team composition was suggested as two regular class teachers, a building administrator, a special education teacher, and one of the ancillary support professionals such as the school psychologist, guidance counselor or social worker. It is felt that the regular staff members would give teachers a feeling that the team is an empathetic body and help diminish the feelings of incompetence that regular educators experience when discussing issues or concerns with specialists. Teachers often have questions or concerns which involve the mental health issues of a child which is why Stokes and Axelrod suggested ancillary support personnel be part of the teams. Administrators are suggested to represent the school districts' fiscal and management policies.

Some of the variables of a successful team have been presented by Oches (1989), Stokes and Axelrod (1981) and Roody (1989):

- Value to the staff
- Ability of the chairperson to lead
- Communication among the team and to the staff
- Organization of process
- Support of the principal
- Atmosphere of the staff – how do they get along together
- Ability of the team to be flexible to adjust to the needs of the building staff
- Offer a viable service
- Team work and collaboration

- Visible and accessible
- Organized, efficient and feasible way of functioning
- Clarity in its mission, authority and goals
- Sense of group dynamics and group development
- Knowledge and skills in different areas which can be communicated to other staff members
- Gain support from outside of the team
- A system of rewards
- A means to monitor itself and assess its on-going progress
- Inservice training must occur which orients and educates participants to the team innovation to be utilized

Schools that have engaged in active restructuring created multiple, teacher-led decision-making teams that cut across the school both horizontally and vertically to involve all teachers in the decision-making process. The teams also fostered high levels of information sharing and interaction around issues related to school performance (Wohlstetter and Mohrman, 1994).

Identifying Team Training Components

Site-based management may be the vehicle that helps build the capacity for sustained improvement. We must involve many people in the process of creating a common vision and create a system thinking about goals and purpose. Rhodes and Digate (1995) report that teams need meeting effectiveness, self-assessment of team performance, district wide applications, use of data, information and knowledge and facilitation by system leaders. Team building is essential to these vehicles of reform.

Teams need a culture that provides the opportunities for them to be accepted and utilized as part of the school's improvement process.

The Massachusetts Business Alliance for Education (MBAE) (Minkoff, 1995) Progress Report on Massachusetts Education Reform noted the following areas for school council advancement. School councils must be helped to understand their role and how it differs from the role of the school committee. Board of Education directives to councils should be clear and requests of councils should not cause tension between councils and school committees. Councils need training in how to reach and attract constituents not involved in the school. They need representation on curriculum frameworks, professional standards, and restructuring. Councils need assistance in group dynamics, group decision making, consensus building, conflict resolution and representing constituents.

Training suggested by Kentucky Education Reform Act:

- Create a Vision
- Develop a set of structures and processes for doing business and fulfilling the purpose of the council
- Team building
- Brainstorm
- Consensus
- Risk taking
- Run effective meetings
- Problem identification/problem solving
- Conflict resolution

- Self-reflective learning
- Plan development for school improvement/school success
- Personnel selection of principals
- Resource distribution
- Processes of gathering and analyzing data (assessment)

Academy of Excellence

The Pioneer Valley Regional Education and Business Alliance (1996) have indicated the following key activities of teams. This organization is supporting districts as they move toward team practices and site-based management.

- Shared leadership roles
- Individual and mutual accountability
- Specific team purpose that the team itself delivers
- Collective work products
- Encourages open-minded discussion and active problem-solving meetings
- Measures performance directly by assessing collective work products
- Discusses, decides, does real work together

They go on to state that teams:

- Operate from a set of values that encourages listening, participation of each member, understanding each other's perspectives
- Develop a common purpose
- Accept mutual accountability and sense of ownership
- Facilitate clear communication within the team and to others

- Require team members to work together effectively—there is a leveling and equalizing effect on behavior
- Set the stage for small wins – symbols of accomplishment
- Motivate people and energizes the process

Ongoing Team Support

A School Governance Council (SGC) Steering Committee

This multi-constituent group often includes school committee members, central administrators, teachers, principals, community and parent representatives. Their role is to provide direction and resources to ensure the successful implementation of site-based management.

Below are listed some of the primary responsibilities of the SGC Steering Committee:

- Develop short- and long-range plans for the SGC process
- Build a sound SGC implementation plan and audit the school's progress in relation to that plan on a periodic basis
- Nurture and evaluate progress of the SGC teams
- Ensure that SGC teams get the support they need to be successful
- Review and advocate for final SGC team recommendations
- Secure specialist (consultation) support (either internal or external) to help in the implementation effort
- Communicate "success stories" from inside and outside the school to energize the SGC effort and build enthusiasm

Training in group dynamics, team process, stage development theory, and consensus building should be provided to each school governance council (SGC).

Development of Building-Based Teams

The planning of a building-based team is vitally important to the actual implementation. The following are variables that should be considered during the initial stages of adoption, development and implementation of a building-based support team and site-based management teams. These variables are reported from several sources including Stokes and Axelrod (1981), Horvath (1980), and Roody (1989).

- Gain support for the concept of a team from all levels of the school community—teachers, parents, students (where appropriate), administrators, superintendent, support staff, school committee.
- Identify people with commitment to the concept to act as an initial steering committee.
- The steering committee should represent all constituent groups.
- The steering committee should review a number of building-based team models for school governance and teacher/student assistance.
- No one model is the correct model.
- The steering committee should identify the characteristics of the school district and the model in an attempt to create a match.
- A model should be adopted.
- The model should be introduced to staff, parents, administration and school committee.

- Each building should discuss its particular nuances which may in some fashion modify the model.
- The building staff may identify building-based team elements already in place within the school which are identified in the adopted model.
- The building staff may identify the mission/purpose of the team.
    * Actual operating procedures
    * Identify the team's role in problem solving
    * Support to principal
    * Pre-referral activities
    * Referral mechanism
    * Type of consultation process
    * Liaison activities with home and community agencies
- The building staff decides upon the team members.
    * This may occur by examining who the problem solvers are
    * Who are the respected staff members
    * Who can articulate ideas
    * Who can get things accomplished
- Begin a process of inservice training on the actual model to be utilized with the staff.
    * Address the concerns of the staff during inservice (i.e., scheduling, paperwork, personal commitment, etc.)
- Begin a process of inservice training for the team on group dynamics and the evolutionary cycle of groups.

    * Problem-solving methods
    * Consensus
- Implement the team.
    * Seek teachers willing to refer a case to the team
    * Continue to work with the staff on the resources of the school and the continued molding of the team
    * Gain staff support and utilize the team to resolve issues related to evaluation conflicts between home-child-school, (present to various parent organization groups or existing school advisory councils).
- Continuously define the roles of team members purpose/function of the team and operating procedures.
    * This should be considered a dynamic process that causes the team to change and grow to meet the needs of the school community.
- Implement a plan of action that includes monitoring and follow-up.
- The process of establishing a high function team is evolutionary; therefore, time is required to have the team become established within itself as well as in the school community.
- Allow the team the time to network with other teams in the district or outside of the district.
- Allow for infrastructure or support.
- This may come from original members of the steering committee.

Team Building

Dolan (1994) also provides the rationale for a scaffolding of support. Provided by the superintendent, school committee and union, the scaffolding ensures individuals are desired and welcomed across organizational boundaries defined as community, parents, staff, principals, central office, superintendent, school committee and union membership. Everyone is invited to join in the "system think" of the restructured school.

This means new roles for central office and the superintendent which are less bureaucratic, and more entrepreneurial. Facilitation is the key to changing the hierarchical central offices into a flatter collaborative professional organizational engaged in many levels of support and service to the district. Reitzeg and Burrelo (1995) report behaviors for the principal in this new learning organization.

These include:

- encouraging justification of practice
- providing alternate instructional frameworks
- encouraging risk taking

Glaser and Van-Eynde (1989) expand upon these areas by reporting on the belief and concepts needed for long-term development of effective organizational school management structures:

- Encourage constructive challenges to the status quo.
- Seek acceptance of decisions by persons responsible for implementation.
- True communication is achieved only when we are able to understand what is being said from the other person's point of view.

- Involvement in decision making or modus operandi that effects personnel in an organization gradually leads to these commitments.
- The essential task of management is to arrange organizational conditions and methods of operations so that people can achieve their own goals best by directing their own efforts towards organizational objectives.
- To share power does not mean to lose control.
- Conducting a post mortem (Kiam Tau) following a significant experience will guard against having to "reinvent the wheel."
- Hire qualified management who fit well into the culture that management is trying to promote.

Lubin and Hannon (1986) additionally comment on the team's awareness of its own norms, resources and attractiveness as a source of professional and personal growth. They feel a group must place its energy in problem solving and have a willingness to resolve its own conflicts. The team must be task-oriented but balanced by good morale.

George (1987) indicates several ways in which a team could build itself without tears. This included activities in which the team could enjoy itself so that bonds could build among people such as sharing of meals and laughter and the establishing of symbols which signify the team's existence. The symbol may enhance the team's sense of togetherness and may become a logo or motto. The team should have its own ceremonies which makes it part of the organizational structure. Members who leave the team should be honored and in some fashion be seen as long-term members of the team.

Walker (1987) states there are four main reasons why teams fail. These include:

- Poor implementation strategy or execution of strategies
- Failure to overcome historically adverse labor management relations
- Insufficient recognition
- Failure to integrate the participative problem exploration philosophy into the organizational culture

Weisbord (1985) indicates three issues that determine whether a group that needs to be a team will become one:

- Am I in or out?
- Do I have any power and control?
- Will I have a chance to use/develop the needed skills and resources?

Obstacles to Team Building

Obstacles to the development of effective work teams are described by Hackman (1994) as trip-wires. In total, he describes five areas that can affect successful team implementation and maintenance. Trip-wire #1: calling a performing unit a team, but really treating it as a set of individuals. Trip-wire #2: falling off the authority balance beam, by retaining control and becoming too autocratic or abrogate responsibilities. Trip-wire #3: tearing down organizational structures without replacing them. Trip-wire #4: skimping on organizational supports. Trip-wire #5: assuming that team members are eager to work in teams and they are already skilled in doing so. Even when all the other trip-wires have been successfully navigated, attention needs to be paid to the skills and attitudes of the individual team members. He points out that it "is often unbelievably

difficult" to get past the first trip-wire of treating teams as sets of individuals, Hackman recommends that a "real team" should:

- be bounded and stable over time
- be interdependent with regard to common goals
- have some level of autonomy to manage its own work and internal processes

Beyond this basic definition of a real team, Hackman suggests four "conditions" that promote the effectiveness or self-managing teams:

1. clear, engaging direction
2. an enabling team structure
3. a supportive organization context
4. available, expert coaching and consultation

Ours is a society with a strong culture of individualism, often creating tensions in the way groups can learn to work effectively. Hackman defines effectiveness as:

- task output that is seen as at least acceptable by those who receive, review or use it
- the capacity of members to work together in the future is enhanced
- members' growth and well-being are fostered by their work and experience

All three are important. If the first goal is met in the short run, but comes at the cost of the second or third goal, the long-term effectiveness of the team will diminish, or people will be so burnt out they will not continue.

Hackman identifies three key factors necessary for a work group to find its tasks motivating. The work itself should be meaningful; it should have a clear connection to the overall mission of the organization, and should not be a decontextualized little snippet

of a project. The teams should have real responsibility for the work and its results. It should get regular built-in feedback about progress and results, so it can know when it has been successful, and when it has to modify its approaches.

A well-composed team has four features: (1) adequate task-relevant knowledge and skill; (2) demonstrated interpersonal skill; (3) as few members as possible; (4) a good mix of members. Teams in schools are often too homogeneous. Hackman recommends a group with "task-focused controversy" is better than one that is always harmonious. He also suggests that teams, especially in schools, are often too large. Sometimes school systems make an effort to include everyone who might be considered a "stakeholder" creating teams as many as eighteen members . These are too unwieldy for decision making and can contribute to "social loafing," when individuals feel unmotivated to work because there are so many others who are responsible. He suggests group size be determined by "optimal undermanning" – defined as having one person fewer than what the team really needs.

Effective work teams should have clear core norms of conduct. Work groups need to know what the boundaries and parameters of their work are. "Teams need to know what must always be done and what must never be done."

Team Building is a Developmental Process

Vogt and Griffith (1988) view an effective team passing through four major phases in team building which include:

- Self-awareness – Individuals are recognized, learn about self and others
- become aware of uniqueness and skills they can give to one another
- Relationship – Relates to others of worth, relating is important to self

- Group development – Examination of group roles, norms, purpose, procedure, conflict resolution commitment
- Team building – The group is integrated into its approach towards task

Carew, Carew and Blanchard (1984) have adapted Lacoursiere's (1980) stages of team development into the situational leadership model so that team managers can evaluate the level of team development and give the leadership needed to meet that team. The evaluation index is referred to as PERFORM. Additionally, Carew and Carew provide the following list.

Team Process to Maintain Positive Dynamics

- **Task Behaviors**

Initiating

Information seeking and giving

Opinion seeking and giving

Clarifying and elaborating

Summarizing

Consensus testing and evaluating

Coordinating

- **Maintenance Behaviors**

Managing conflict

Encouraging

Gatekeeping (managing communication flow)

Diagnosis and facilitating group functioning

Active listening

Acknowledging others

- **Self-Oriented Behaviors**

Fighting/controlling/distracting

Resisting authority

Over supporting

Forming alliances

Over-depending on authority

Withdrawing

Group Performance and Process Index

- Productivity

1. output is high
2. quality is excellent
3. decision making is effective
4. clear problem solving process is apparent

- Empathy and Empowerment

5. effective listening is practiced
6. members desire to understand each other
7. trust among members is high
8. there is a warm and supportive atmosphere

- Roles and Goals

9. goals are clear and agreed upon
10. individual roles are clear
11. goals are challenging yet attainable
12. timelines and action plans are outlined

- Flexibility

13. members perform different tasks and maintenance functions as needed
14. members share responsibility for team leadership and team development

15. members support one another

16. various ideas and approaches are explored

- Open Communication

17. effective two-way communication is evident

18. difference of opinion is encouraged

19. conflicts are managed and resolved well

20. feedback is given in a genuine and caring way

- Recognition and Appreciation

21. individual contributions are recognized and appreciated by leader and other members

22. team accomplishments are recognized by members

23. group members feel respected

24. team contributions are valued and recognized by the organization

- Morale

25. individuals feel good about their membership on the team

26. individuals are confident and motivated

27. members have a sense of pride and satisfaction about their work

28. there is a strong sense of cohesion in the group

Stage Development Theory

Stokes and Axelrod (1981) also used Lacoursiere's (1980) model as a guide to understanding how a building-based team might evolve and develop. The following outline is taken from their 1981 report on support teams.

There are five stages of development suggested in Lacoursiere's group development model. These consist of:

- Orientation Stage
    * members are eager and have positive expectations
    * members are concerned about what they know, the purpose, function and roles of the team
    * members are dependent on the situation
    * energy of the team is focused on:
        - defining goals
        - team process and procedures
        - determining needed skills of the team
- Dissatisfaction Stage
    * members become somewhat functional
    * members may feel anger toward leaders, goals and task of the team
    * members may feel sad and discouraged
    * energy of the team is focused on:
        - reviewing expectations versus reality
        - roles in the team
        - issues of incompetence
        - blaming
- Resolution Stage
    * frustration is dissipating
    * personal satisfaction is increasing

    * collaborative effort is beginning to jell
    * energy of team focuses on:
        - resolving a sense of frustration and incompetence
        - determining strategies for long-term problems
        - determining how to best accomplish their task
        - rectifying expectations
        - expectations and reality are more closely meshed
        - process and procedures are meshed
        - roles are understood
        - self-esteem is heightened
        - pleasure came from accomplishing task
- Productivity Stage
    * members are eager to be on the team
    * individuals feel greater authority
    * members work well together
    * energy is on a problem solving and supporting staff
    * leadership functions are shared
    * sense of mutuality exist
- Termination
    * strong sense of accomplishment
    * evaluation of accomplishment
    * tying up loose ends

Levin (1991) also uses a stage development process and refers to each area as indicated in Lacoursiere's model. Levin labels his stages as forming, storming, norming, performing, and adjourning. He also provided the following reasons for team breakdown:

- unclear purpose, goals, objectives
    * excessive interpersonal conflict
    * unproductive meetings
    * lack of decision making
    * unclear roles, responsibilities
    * lack of support from others in the organization
    * failure to relate to others outside the team

CHAPTER III

ESTABLISHMENT OF THE RESEARCH DESIGN

Introduction

Teams are entrusted with responsibilities for special education and education reform. They require evaluation. This evaluation must come from superintendents of schools and central office administrators. Superintendents must be aware of their responsibilities to the team as a support, supervisor and evaluator. The superintendent must be able to recognize activities of a functioning team. The superintendent must understand how to help the team that is failing.

The complexity of working as a team requires training. Without training, the teams are unlikely to thrive. Variables for team building can be considered in a well thought-out introductory plan supported by superintendent, school committee and administration. Understanding the importance of these variables to team function must be the consideration of school district leadership. This study describes a method to evaluate activities of functioning teams so that maintaining and training of teams can be understood by the school administration. The decision makers and evaluators of these team concepts must have a basis by which assessment of team-functioning can occur. In this study, the author combines both a literature review and quantitative analysis of team functioning descriptors to produce a team evaluation instrument in order to provide the reader of this study with a sense of the activities to consider in evaluating school governance councils and building-based support teams.

The purpose of this research design is to develop an evaluation instrument of team performance. In order to determine whether team functioning is thriving or having

difficulty, there is a need to establish a method by which the decision makers and evaluators; i.e., superintendents, special education directors and other school administrators, can evaluate these teams. There has been qualitative and narrative research done to determine the important factors in developing, implementing and maintaining team performance. However, little has been done in terms of developing an evaluation and assessment instrument. This paper will present a statistical analysis and discussion of the measurement reliability of this evaluation tool. In addition to team evaluators, this instrument when completed will provide a workable tool for team members to perform self-evaluation.

Study Design Methodology

- **Stage 0**: Determination of descriptors' importance as rated by superintendents (the Pilot) is presented in this chapter.
- **Stage 1**: The activity survey will be administered to superintendents and team members.

The survey questionnaire for both superintendents and team members will include the original 70 variables rephrased in the form of questions and rated on a 5 point Lickert scale, 1 being low to 5 being high, as well as a 71st question on the overall performance of the team. This survey questionnaire will be filled out by the members of the team and by the superintendent for each team evaluated. The teams will be evaluated as thriving, functioning, functioning with problem and non-functioning. (See Figure 3.1).

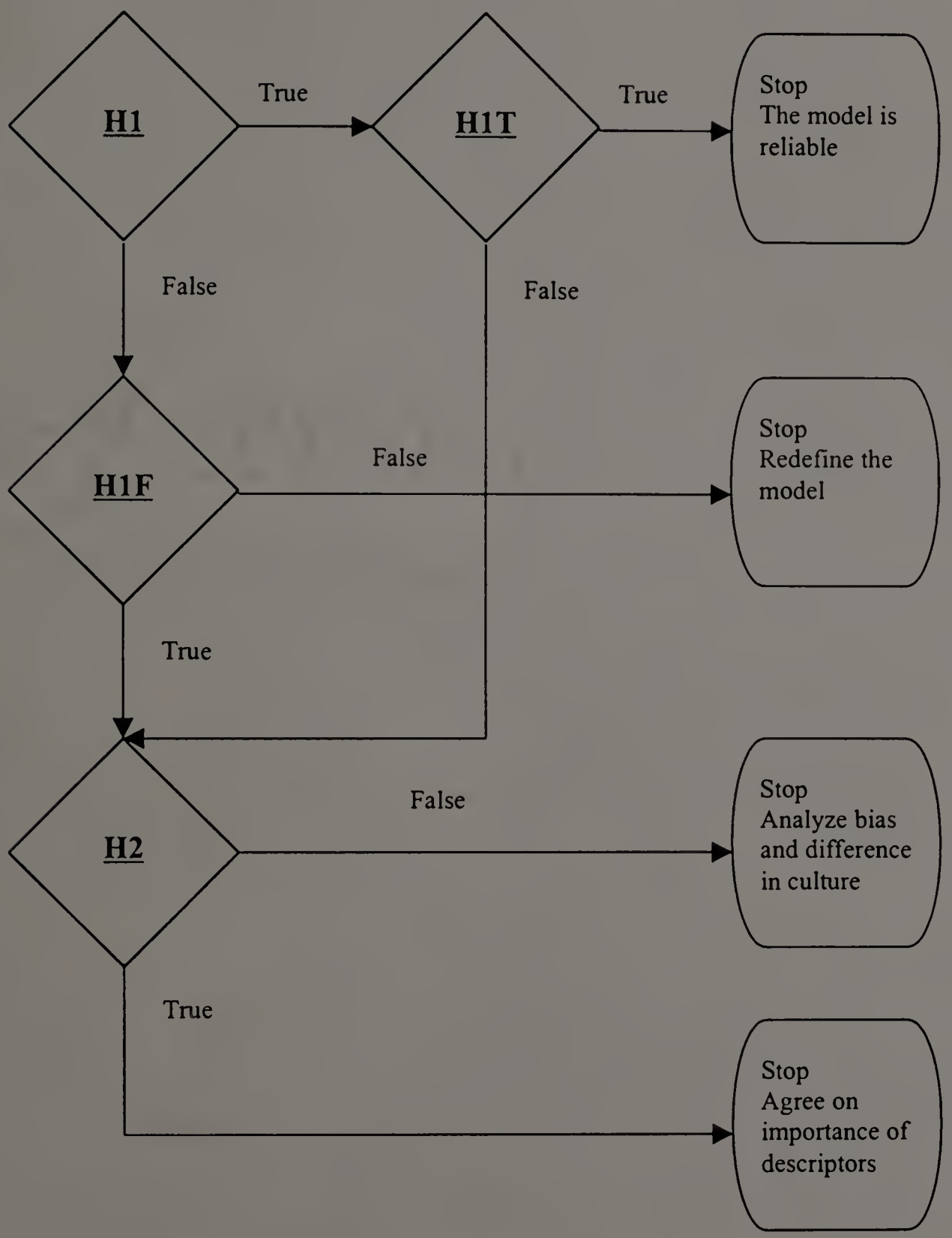
- **Hypothesis No. 1**

The descriptors activity levels as reported by the team members may estimate the superintendent's overall performance evaluation of the team.

* **Rationale:**

Determine the reliability of this estimation model as well as the most reliable and efficient subset of descriptors.

Figure 3.1 - Schematic of Study Design



* **Methods:**

1. Descriptive statistics
2. Correlation Matrix
3. Multiple Regression Analysis
4. Stepwise Regression Analysis

* **Data:**

The results from the questionnaire administered in Stage 1 will be used to analyze the linear function: Y1 = f(X) where Y is the evaluation by the superintendent and X are the descriptors activity levels as reported by the team members.

* **Test Results of Hypothesis No. 1**

- If Hypothesis No. 1 is true, proceed to Hypothesis No.1T.
- If Hypothesis No. 1 is false, proceed to Hypothesis No.1F.

- **Hypothesis No.1T**

The descriptors activity levels as reported by the team members may estimate the self-evaluation of the performance of the team by its members.

* **Rationale:**

Establish whether the team members agree with the superintendent in the use of these descriptors in estimating the overall performance.

* **Methods:**

1. Descriptive Statistics
2. Correlation Matrix
3. Multiple Regression Analysis
4. Stepwise Regression Analysis

* **Data:**

The results from the questionnaire administered in Stage 1 will be utilized to analyze the linear function: Y1T = f(X) where Y1T is the self-evaluation and X are the descriptors activity levels as reported by the team members.

* **Test Results of Hypothesis No. 1T**

  - If Hypothesis No.1T is true, it will be concluded that the model consisting of the 70 descriptors is reliable in its estimation of the overall performance of the team.
  - If Hypothesis No. 1T is false, proceed to testing Stage 2.

- **Hypothesis No.1F**

The evaluation of the team by the superintendent may be estimated by the descriptors activity levels as perceived by the superintendent.

* **Rationale:**

Establish whether the superintendents perceive the descriptors activity levels that contributes to their assessment of overall team functioning.

* **Methods:**

1. Descriptive Statistics
2. Correlation Matrix
3. Multiple Regression Analysis
4. Stepwise Regression Analysis

* **Data:**

The results from the questionnaire administered in Stage 1 will be used to analyze the linear function: Y1F = f(X) where Y1F is the evaluation of the team by the

superintendent and X are the descriptors activity levels as perceived by the superintendent.

* **Test Results of Hypothesis No.1F**
    - If Hypothesis No. 1F is true, proceed to Stage 2.
    - If Hypothesis No. 1F is false, conclude that the original 70 descriptors as selected by the superintendents are not reliable in estimating the overall performance of the team. Additional study and analysis will be needed to determine a new set or a revised set of descriptors. One possible conclusion is that such evaluation models cannot be easily quantified and are best dealt with in qualitative models.

- **Stage 2:** Stage 0 will be duplicated administering the original practitioners' questionnaire to the team members (Appendix A). The objective will be to determine how the team members perceive the importance of the descriptors. If conflicting views come from the results of team members versus the superintendent, this author will investigate whether these conflicts were a result of differences in point-of-view as to the importance and relevancy of these descriptors.

- **Hypothesis No. 2**

The importance of the descriptors as perceived by the superintendent is different from the importance of the descriptors as perceived by the team members.

* **Rationale:**

As noted above, if there are conflicting results, this author will investigate whether the origin of the conflicts is due to a difference in how each party (superintendent and team members) views the importance of these descriptors.

* **Methods:**

1. Descriptive Statistics
2. Correlation Analysis
3. Test of Difference of Means
4. Test of Independence
5. Analysis of Variance

* **Data:**

Importance ratings will be used as reported by the superintendents in Stage 0 and as related by the team members in Stage 2.

* **Results of Test:**

- If Hypothesis No. 2 is true, indicating that there exists a difference in the importance of the descriptors as perceived by both parties, this author will recommend that a focus be placed on analyzing the reasons for this difference, as well as to look into ways to reduce it.
- If Hypothesis No. 2 is false, indicating that there will be no significant difference in the importance of the descriptors as perceived by both parties, this author will recommend to look for the real reason and source of the conflicting views. Areas of bias and cultural differences will be explored.

Stage 0 Pilot: Determining Team Activity Descriptors; Establishing the X-Axis Variables

Methodology

The building of this evaluation instrument is a three-step process. Step one was to develop general guidelines derived from established research and theory in the field.

Step two was to develop an evaluation instrument based on a survey of practitioners. These practitioners are from the public schools in the Commonwealth of Massachusetts. Step three was an attempt to validate this evaluation tool through a cross analysis of the first two steps.

Step 1: The General Theory

Utilizing the literature review, this author had prepared a general questionnaire of activities and variables of training and support associated with the development, implementation and maintenance of functioning teams. This evaluation tool was based on a 5-point Lickert scale, 1 being the lowest score and 5 being the highest score. Respondents were asked to assess the occurrence and importance of the activity or variable as they perceived them.

This general questionnaire was made up of a total of 105 questions. A total of 65 of these questions dealt with areas of support, planning, cultural acceptance, consultation skills, collaboration, group process, team values, group dynamics, visibility and team building. Twenty questions dealt with the area of training. Twelve questions dealt with the role of the principal and eight dealt with the role of parents. (See Appendix B).

Step 2: The Practitioners' Survey

The practitioners referred to in this survey are usually the school administrators called upon to evaluate the different school teams. These practitioners included for the most part superintendents, special education directors and occasionally other school administrators.

Stratified Sample

During the 1996-1997 school year, a stratified sample of 60 school districts was selected among all school districts in Massachusetts. Massachusetts is divided into six regions; Berkshire, Pioneer Valley, Central Massachusetts, Greater Boston, Cape Ann and Cape Cod. These regions are diverse in their socioeconomic and demographic traits, thus the choice of a stratified sampling. In this survey, all 60 school districts were asked to list all the factors they used in measuring the performance of their teams. Twenty of the districts responded. The responses came in several forms. Some were simple words such as "compatibility" and "humor." Others were grouped words such as "equal talk time" and "referrals from staff to team." A few answers were small phrases and sentences such as "conflicts can be managed without disrespectful behaviors or discussions." These answers were initially grouped as to their relevance in three different categories; 41 factors in building-based support teams, 37 in school governance councils and another 37 in a common list to both teams. Through further analysis, it was noted that many of these 115 factors were actually the same measures, but were phrased differently, for example, "ability to stay on task" and "ability to stay focused." Therefore, once thoroughly analyzed, the set of 115 factors or variables was reduced to a set of 71 variables grouped in 7 sets: Internal School Relations, Product of Team: School Governance Council (SGC), Product of Team: Building-Based Support Team (BBST), Product Outgrowth of Both BBST and SGC, Descriptive Factors of a Thriving Functioning Team, Descriptive Factors of Team Process/ Dynamics and Descriptive Factors of Dynamics which are in the School Community.

Random Sample

A new questionnaire was then developed. The questionnaire included a brief statement indicating its purpose. Respondents where asked the question: "In your own assessment, please indicate the relevancy of the variable (how important it is), using a score of 1 to 10; the higher the score the more important is the variable." This questionnaire was then distributed to a random sample of superintendents. A copy of this questionnaire is shown in Appendix A. Once collected, the results were compiled into a database and summarized with their descriptive statistics in Table 3.1.

Step. 3: The Cross-Analysis

The survey of superintendents across the Commonwealth of Massachusetts did not provide descriptive factors associated with school culture; all other variables in the general theory review were either directly or indirectly addressed. They also defined other variables considered to be relevant to functioning teams.

Variables of cultural acceptance had been utilized in the general survey. These variables included staff involvement in selection of standard operating procedure, team model, and team mission/vision. The literature review had indicated the importance of cultural acceptance of the team. The issue of culture must be isolated and reviewed as a separate study in which team functioning can be compared to the school culture's willingness to adopt the concept of team practices.

Superintendents provided descriptors for evaluating team performance, which matched with the variables in the literature search. For example, set agendas, setting a time to meet, clearly defined mission, shared goals, guidelines, members' role, diversity in group composition, compatibility, ability to collaborate and conflict resolution, were

given by superintendents as descriptive factors as has recent literature on functioning teams (David, 1992; Digate & Rhodes, 1995; Tietal, 1994).

Some variables were similar to those described in stage development theories of groups, group process and group dynamics. Superintendents listed items, such as communication in a common language, problem solving, synthesizing of information, risk taking, valued effort of team members, equal talk time, respect, trust, open discussion, and ability to listen to and accept each member's point of view (Blanchard, Carew & Carew, 1988; David 1992; Stokes & Axelrod, 1981).

Superintendents did add descriptive factors which were not among the general theory survey provided through literature. These included special education reports, parental community programs, annual strategic development plans and reports to school committees. These may be factors viewed as important to superintendents since an emphasis has been placed on school improvement plans used by school governance councils.

Administrative support and relations were indicated by the superintendents. These descriptors merit further definition based upon the emphasis placed on the role of the principal in the team practice and leading school innovation. The role of the parent warranted further definition beyond parent relations. The work of Comer (1985), Burello and Stephenson (1981), and Van Deverder (1988) merit review as to how parents initiate their involvement in school activities.

Statistical Analysis

Table 3.1 shows all the variables labeled X1 through X71 along with some of the descriptive statistics. Included are the measures of central tendency, i.e., mean, mode, and median, and the standard deviation.

Observation #1: High Scores

When examining these statistics, the first observation made was the consistency of the results. Except for six (6) variables (X6, X7, X10, X27, X36 and X48), all variables had a substantially high average score, 6 or above. Most were actually 7 or above. Overall, the lowest average score of 4.688 was obtained for variable X6 (Student interest in team).

It is often argued that in similar opinion surveys the mode, being the most frequent value, is a better measure of central tendency. The lowest mode value of 2 occurs again with X6. Similarly, the scores as described through the mode came in consistently high, 7 or above. Three of the original five low scoring variables (X7, X36, and X48) had a score of 5 and X2 had a score of 2. Examining the median value, representing the midpoint, X7, X27, X36, and X48 had a median value of 5 and X6 had a value of 2, while X10 had a relatively high score of 6. All the other variables had a high median score ranging from 7 to 10.

A further evaluation of the data on X6 (student interest in team) clearly showed that overall support for this variable is generally lacking. The average score of 4.7273 was more the result of a couple of high-end outliers. On the other hand the data on the other variables X7, X10, X36, and X48 was much better behaved. From the above consistent high scores, except for X6, this author concluded that the list of evaluation

variables was generally well received and accepted by the practitioners and recommended removing X6 from the list of variables bringing the total of variables to 70.

Mean Test

It is often accepted practice in decision-making situations such as this one to set a threshold value instead of a population mean. The rationale behind such an action was that in order to gain acceptance for any one variable this author was more interested in testing its mean score against a preset acceptable value rather than against what the population mean value might possibly be.

In this testing, a right-open ended confidence interval (one-tail test) was used with a threshold score of 7. Obviously, there was no intention to set any maximum value on the possible mean score. The higher the score, the more important the variable. The highest possible score is 10. Table 1 shows that when using a 95 % confidence interval, X6 falls well within the rejection area, while X7 and X36 are barely rejected. When using a 90% confidence interval, only variable X6 is rejected. These tests confirm the conclusion reached above.

Observation #2: Normality

By examining the ratios of mode over mean and mode over median, these ratios, for the largest part, were close to 1, suggesting a bell-shaped curve for almost all variables.

From this observation, this author concluded that these variables seem to be normally or near normally distributed. This assumption would be helpful and sometimes

necessary in future applications. Further data collection would be necessary to confirm the normality through formal statistical testing.

Significance Testing of Mean, Mode, and Mean Median Differences

To further show that most variables follow a bell-shaped curve, the mode and the mean were not statistically significantly different from the mean. Building a 99% confidence interval around the mean, these tests will be performed. If a mode or median value lies within the mean confidence interval, the Hypothesis that it is not statistically different from the mean was accepted. Otherwise, the hypothesis was rejected. Tables 3.2 and 3.3 present the results of these tests for each variable. Most of the mode value and an even greater number of the median values fell within the prescribed confidence limits. These results further strengthen the conclusion reached above of normality or near normality.

Future Implementation

This research presents a departure from traditional research in this field. An actual evaluation model of team performance is presented in the form of a questionnaire. This model will allow the quantitative assessment and statistical analysis of team performance, in the Commonwealth of Massachusetts public schools using building-based support teams and school governance councils as legislated by the Education Reform Act and suggested in the Regular Education Initiative.

In a follow-up, a redesigned general questionnaire (Appendix C) will be administered to teams within the school districts that have volunteered to participate in the study. Team members are asked to score their activity levels for each of the 70 activity descriptors and rate their performance on a 71st question. Team evaluators are asked to evaluate the overall performance of the team based on their perceptions of the 70

descriptors activity levels. It is predicted that this evaluation model will gain wide acceptance by the practitioners, as it is derived directly from their own informal evaluation techniques and beliefs. In addition, team members could use this model for self-evaluation. The statistical and quantitative reviews of the results would indicate areas of weakness where training might be needed and/or where other forms of support could be offered to help the teams. Other analyses could be performed to further refine and validate this model. Potentially, the data collected from such surveys could serve as a basis in the design of estimation, prediction, and optimal models of team performance.

CHAPTER IV

VARIABLES USED TO EVALUATE SCHOOL SITE TEAM PERFORMANCE; ANALYSIS OF STATISTICAL DATA

Survey and Sampling

The activity survey presented in Appendix C was derived from the open-ended descriptive activities survey and central office/evaluator's rating survey presented in Appendix A and B. Activity levels were rated as to evaluator and team members' perception on a 5 point Lickert scale, from a low of 1 to a high of 5. The activities survey was prepared from the 70 variables kept with a 71st question on which participants could rate their perception of the team's overall performance as thriving, functioning, functioning with problems and not functioning in order to assess the Hypothesis questions as prepared in Chapter III. The stratified sampling utilized in Chapter III to identify the activities used to assess team functioning was repeated to gather participating school districts as subjects. The stratified sampling came from six geographical regions of the Commonwealth of Massachusetts: the Berkshires, Pioneer Valley, Central Massachusetts, Cape Ann, Cape Cod and the Greater Boston metropolitan area, including the surrounding suburban towns and cities. The original 60 school districts, of which 20 responded to the open-ended descriptive study, were utilized to establish a primary list of districts to contact for the activities' survey. Districts that participated in the previous study were contacted by phone, e-mail and through a mailing and were asked to utilize the activity survey. Districts were added as needed to ensure representation from the stratified geographical regions. The sampling was also stratified to represent urban, suburban and rural areas as well as diverse socioeconomic regions of the state. Districts

that chose to participate included cities and towns representing urban and urbanized centers, suburbs of Boston, Worcester and Springfield, which are the largest cities by population in Massachusetts. One of the greater Boston locations, Dover-Sherborne, represents one of the highest property evaluation communities and per pupil expenditure districts in the Commonwealth. Rural and urban areas included some of the lowest property evaluation communities with low per pupil expenditures by district.

Fifty school districts were contacted and 47 decided to receive surveys. Each district received instructions to choose one to four school site teams to assess their function utilizing the activity survey. Districts made their decision to utilize building-based support teams (BBST) and/or school governance councils (SGC). The central office administrator charged with evaluating team performance was asked to complete an activity survey for each team that would participate in the sampling. The team members would then receive the activity survey and self-assess the team's function. Twenty-three school districts returned data. Two school districts completed surveys on four teams and two school districts did complete surveys on three teams. Five districts provided data on two teams and other districts provided one team for assessment. Two districts provided only administrator/evaluator input but the team member surveys were not returned. In total, information was provided on 36 complete teams, representing 39 central office staff, 143 team members of which 18 are principals. Twenty-two of the reporting teams represented building-based support teams with 14 teams described as school governance councils in accordance with the Massachusetts Education Reform Act of 1993.

One observation that was made immediately upon assessment of the surveys was the difficulty that school governance councils had with activity questions 50 through 55

which dealt with special education pre-referral, referral and evaluation questions. Team members would rate these activities low indicated by a score of 1 on the Lickert scale or not rate them by writing non-applicable (N.A.) or leaving blanks. The same phenomena was observed for building-based support teams but to a lesser degree in relation to questions 17, 21, 43, 56, 57 and 58 which deal with strategic planning, school improvement plans, professional development, reports to school committee, advocating for resource and management skills. Members of BBST's would leave these items blank or rate them low on occasions. For the most part, the majority of BBST members answered these activities and perceived them as part of the task of the team. Upon exit interviews, school districts indicated that the presence of both BBST and SGC activities in the same survey was confusing. The suggestion was made that they be separated into two different surveys.

The exit interviews also provided the information that central office administrators often find it difficult to distinguish the rate of activity on the 70 variables because of limited knowledge or contact with the teams previous to this request. Central office administrators indicated that principals have this knowledge because they are part of the teams. They also pointed out the lack of a formal procedure or instrument to assess the team functioning. The activity survey was the first of its nature provided to them.

Descriptive Data

Descriptive statistics were developed for both the team members and the evaluators. The team members' descriptive statistics are summarized on Table 4.1. The evaluators' descriptive statistics are summarized on Table 4.2.

Team members rated most of the variables from the low score of 1 to the high score of 5 on the Lickert scale. Based upon the perceived levels of activity, X32 (team decisions are made on behalf of student interest) did receive rating scores between 3 and 5 on the Lickert scale. Fourteen other variables were rated between 2 and 5 on the activity Lickert scale. These activities dealt with X9 and X11 (communication), X10 (problem solving), X5 and X41 (respect), X3 and X18 (positive relationships with staff), X24 (trust), X25 (collaboration), X66 (compatibility), X42 (diversity of opinion), X64 (team remains focused), X62 (members have regular attendance at meetings) and X30 (are willing to take risk).

The mean for most variables was between 3.00 to 4.43. Several variables with a mean of 4.48 to 4.64 deal with X9 and X11 (communication), X10 (problem solving), X12 (problem resolution), X26 (manage conflict), X41 (respect), X37 and X38 (share and support concerns and opinions equitably), X2 (have support of administration) and X32 (make decisions on behalf of student interest). Several factors with mean scores below three (3.00) ranged from 2.33 to 2.85 dealt with X22 and X49 (team participation with other school site teams), X29 (training), X52 (reports on special education), X56 (reports to school committee), X57 (planning of professional development) and X55 (fewer referrals to special education evaluation). Some of these lower mean scores are attributed to the affect of team members not being able to rate tasks which they perceive as not being part of their team activity.

The median for team members' perceived levels of activity ranged from 2 to 5. Variables with a median of 5 were generally the same as those with mean scores above 4.5. Additionally, several other variables with high median scores while rendering

average scores which were reported not as high as 4.5 or greater included X61 (team members follow procedures), X65 (can use their expertise) and X68 (are honest and sincere with one another).

Variables with medians of 2 and 3 generally have means measured between 2.33 and 2.85. When taken into consideration with six variables with means between 2.99 and 3.37 but also with medians of 2 and 3, they add statistical support to the observation that team members perceive lower activity associated with input on school governance and special education. This is attributed to the perceived role of teams associated with special education dealing less with school governance and school governance councils dealing less with special education. These variables also add information that team members perceive X1 (periodic evaluation), X27 (alternating team roles), X40 (increased parental involvement) and X49 (teams participating with other teams at the school site) occurring to a lesser activity degree among the 70 variables.

Evaluators rated most of the variables between a minimum and a maximum score of 1 and 5 respectively on the Lickert scale as to their perceived activity levels. There are two variables which administrators perceived as having a minimum score of 3. These variables include Xa4 (team members are perceived as having knowledge and expertise) and Xa9 (have the ability to communicate in a common language).

The evaluators perceive the activity variables in a similar fashion to team members but generally higher on average with mean scores reported between 3.45 and 4.28. Administrators more than team members perceive several variables at a higher rate of activity. The mean scores of these variables measure above 4.32 to 4.60. They include Xa3 and Xa18 (positive relationship to staff and administrators), Xa2 (feel supported by

administration), Xa37 (team members share concerns and opinions equitability), Xa41 (respect one another), Xa61 (follow a procedure), Xa65 (can use their expertise) and Xa32 (make decisions in the best interest of the students). The evaluators rated several variables lower; they had mean scores ranging between 2.26 and 3.36. These areas were associated with governance and special education. The team task functions are perceived as specific to one team (building-based support team) as opposed to the other type of team (school governance council) often leading to lower rated activity on certain task variables. The evaluators also perceive activity in variables associated with Xa1 (periodic evaluation), Xa22 (contact with other school teams), Xa27 (alternating team roles), Xa30 (willingness to take risk), Xa40 (development of parental community programs), Xa57 (professional development activities) and Xa29 (team training) lower than other task.

Most median scores reported by evaluators fell in the range of 3 and 4. Several variables were perceived as having activity rates with a median of 5. Included among these variables are ones with a mean score of 4.32 and higher. Additionally, Xa66 (team demonstrating compatibility) also shows a high median score of 5. Xa52 (reports developed on special education) has a median score of 2. Variables with mean scores between 2.26 and 3.32 generally achieved a median score of 3. These variables deal with tasks associated with special education and school governance. An additional variable, which is perceived as having a lower rate of activity by the evaluators with a median score of 3, is Xa46 (out of meeting discussions held between staff and team members about team activities).

An anticipated component of governance council activities is discussion between teams at sites including parent teacher organizations and various parent advisory councils. The specificity of team task may account for the perceived lower rate of activity on the variables dealing with staff discussions about team activity. The data continues to provide statistical support for exit interview information that team members and administrators alike felt the governance and special education question contained in the same survey instrument was confusing. This led to lower rated activity scores for the variables perceived as a task by specific teams, such as out-of-meeting discussion on team activities. Another statistical measure, the standard deviation, which measures variability also, points to the same effect. These variables with lower mean and median scores, generally have a standard deviation measure greater or equal to one adding evidence that activity ratings on these tasks varied greatly. Review of the surveys as previously reported revealed the tendency of team members and evaluators to give a score of 1, utilize N.A. or leave blanks on these factors.

Measures of central tendency, mean and median, for team members and evaluators, indicate that there seems to be a symmetrical distribution of scores. The standard deviation for the evaluators was in general slightly higher. This may be an effect of fewer members in the evaluators' sample. The similarity of rating by team members and evaluators on the levels of activities also indicates a tendency of grouping the variables together. The possible presence of multicolinearity between several variables will have to be reviewed. This pattern which is observed in the rating of the activities is similar to the grouping of variables suggested in the literature as factors affecting team performance.

Comparing Administrative and Team Data

A cross-analysis of the two groups, evaluators and team members does indicate that certain process and group dynamic variables are rated high, especially by the team members. They include X9 and X11 (communication), X24 (trust), X25 (collaboration), X26 (conflict resolution), X37 (opinions and concerns are shared equitably), X41 (respect) and X66 (compatibility). The two groups, team members and evaluators, also rate product tasks in a similar fashion. Especially noted is the specificity of task to certain teams. School governance councils see a role in annual planning and school improvement plans but not special education activities, while building-based support teams see a role in pre-referral and special education related activities but not annual strategic plans. These areas reported lower mean and median scores by both groups. Also noted is a tendency to rate lower the variables dealing with participation of teams in the building with one another or reports prepared for special education or the school committee.

Also of interest is the emphasis in rating activity on variables associated with team guidelines and procedures, regular attendance at meetings, set agenda, and set times for meetings as reported by team members. Team members rate these areas higher than the evaluators. Evaluators gave higher levels of activity to administrative support than did the team members. There is a general unevenness in the reporting of the activity rate on these variables, an issue that needs to be addressed through further analysis. Support and consistency in task that would maintain team procedures are perceived by the author as a major subset of variable reported in the literature.

Variables that were rated low as to activity by both groups included periodic X1 (team evaluation), X29 (training) and X27 (alternating team roles) including that of the leader. Team members and evaluators rated at a high level of activity X32 (decisions are made on behalf of student interest).

Analysis of Study Design

Hypothesis H1

The author wishes to define an evaluation tool in which the team members' self-reported levels of activity in the previously selected set of 70 variables would help estimate the overall performance of the team as rated by the evaluator. This shall be achieved by testing the Hypothesis H1 as stated in Chapter III.

Regression Analysis

In the first attempt to test Hypothesis No.1, the author will perform a regression analysis of the self-reported levels of activities (X's) by team members, on the overall team performance (Ya) as rated by the evaluators. Using Mini-Tab statistical analysis software, the results of the regression analysis are reported in table 4.3. The resulting linear equation is presented below.

$$
\begin{aligned}
Ya = {} & 2.71 - 0.121\,X1 + 0.0750\,X2 + 0.231\,X3 + 0.0781\,X4 - 0.273\,X5 + 0.142\,X6 \\
& + 0.169\,X7 - 0.0238\,X8 - 0.231\,X9 + 0.175\,X10 + 0.059\,X11 \\
& + 0.239\,X12 - 0.253\,X13 - 0.064\,X14 + 0.037\,X15 - 0.109\,X16 \\
& - 0.0290\,X17 - 0.092\,X18 + 0.0738\,X19 - 0.0330\,X20 - 0.0687\,X21 \\
& - 0.0664\,X22 - 0.210\,X23 + 0.083\,X24 - 0.065\,X25 - 0.172\,X26 \\
& + 0.101\,X27 + 0.112\,X28 + 0.0040\,X29 + 0.168\,X30 - 0.0319\,X31 \\
& - 0.117\,X32 + 0.310\,X33 + 0.0256\,X34 - 0.0519\,X35 + 0.025\,X36 \\
& + 0.104\,X37 - 0.005\,X38 - 0.155\,X39 + 0.0167\,X40 - 0.162\,X41 \\
& + 0.0407\,X42 - 0.0468\,X43 - 0.172\,X44 + 0.191\,X45 - 0.0081\,X46 \\
& - 0.0179\,X47 - 0.0640\,X48 + 0.0463\,X49 + 0.0406\,X50 - 0.0135\,X51 \\
& - 0.0959\,X52 + 0.0261\,X53 + 0.0318\,X54 - 0.0437\,X55 + 0.147\,X56 \\
& + 0.0614\,X57 + 0.0359\,X58 - 0.0755\,X59 + 0.0869\,X60 - 0.074\,X61 \\
& - 0.133\,X62 + 0.0435\,X63 - 0.067\,X64 - 0.153\,X65 + 0.465\,X66 \\
& + 0.118\,X67 - 0.269\,X68 + 0.105\,X69 + 0.0415\,X70
\end{aligned}
$$

Using a minimum 95% level of confidence, 11 out of the 70 variables proved to be statistically significant. These variables are X3, X5, X7, X9, X13, X33, X44, X56, X66, X67, and X68. When lowering the level of significance to 90% or higher, this set of 11 variables is augmented by eight more variables, bringing to a total of 19 statistically significant variables. These added variables are X1, X11, X23, X26, X27, X30, X45, and X52. For a description on these variables, refer to Appendix C. Additionally, the constant term (intercept) is also highly statistically significant. The overall multiple regression resulted in an R-Square of 73.1% and an adjusted R-Square of 48.3%. The analysis of variance of the residual errors resulted in a low F score of 2.95.

A closer look into the regression parameters reveals that half of the variables are negatively correlated with the overall performance. However, it is important to note that only a very few of them are also statistically significant. These are X1, X5, X9, X13, X23, X26, X44, X52,and X68. Thus about 50% of the statistically significant variables have a negative slope.

Although it was not explicitly stated in Hypothesis No.1 that the activity levels must be positively related to the overall performance, it is the belief that throughout the development of this evaluation tool, the evaluators implicitly expected a positive relationship. The analysis of this multiple regression leads to the following observations:

- low number of statistically significant variables, only about 27% of the total set of variables
- relatively low R-Square and F scores
- the presence of too many unexpected negative slopes

These observations do not permit us to accept the Hypothesis as stated; however, they strongly warrant the need for further analysis before any final conclusion could be drawn. A correlation analysis shall then be performed. A complete correlation matrix is presented in Table 4.4.

Correlation Analysis

A correlation analysis of the X variables (activity levels) and Ya (overall performance of the team as rated by the evaluators) is reprinted in table 4.5. Examination of the simple correlation measures between Xs and Ya shows that many were positive; however, the highest value was 0.38 between X33 and Ya. These correlation measures are relatively low; only about 20% had a correlation measure with Ya between .21 and .38. Many variables continue to have negative relationships with Ya. 13 variables had negative simple correlation measures with Ya.

These latest results of the correlation analysis between X and Ya and the previous conclusions of the regression analysis between again X and Ya, while they do not justify the rejection of the null Hypothesis as stated, they do not justify its acceptance either.

The low performance of the regression analysis, as well as the high correlation measures between some of the activity levels, may be explained by the possible presence of several degrees of multicolinearity, which shall be investigated in a later stage. At this time, following the procedure outlined in Chapter III, Hypothesis 1F shall be tested.

Hypothesis No.1F

Following the failure to accept Hypothesis No1, where the set of 70 variables reflecting activity levels as reported by team members could help estimate overall team performance rating as reported by the evaluators. The activity levels as reported by the evaluators will now be examined.

In practice the evaluators often reported that in most cases there was no established procedure for the members to communicate their activity levels to the evaluators. Therefore, the evaluators proceeded to rate the overall team performance on their perception of activity levels.

At this stage, the intent with Hypothesis H1F is to determine whether the evaluators do use their perception of activity levels in rating overall team performance.

Unfortunately due to the relatively smaller evaluators sample size (48) in comparison to the large number of independent variables (70), the use of multiple regression analysis will prove to be inadequate. On the other hand the use of correlation analysis reveals very interesting results. Table 4.6 presents the complete correlation matrix between the activity levels as perceived by the evaluators (Xa), and overall team performance as rated by the evaluators as well (Ya). Similarly, to Table 4.4, the correlation matrix of X and Ya, Table 4.6, also shows definite trends of high correlation measures between several variables, suggesting once more the possible presence of

multicolinearity, and also perhaps the possibility of further grouping of activities. This concept shall be explored and presented at a later stage.

Narrowing the focus on the simple correlation measures between Xa and Ya, presented in table 4.7, several definite positive relationships between the Xa variables and Ya are observed. Eighteen variables have a simple correlation with Ya measuring 0.50 or better. Fifteen more variables have a simple correlation with Ya measuring between 0.40 to 0.50, bringing the total to 33, slightly less than half the set of variables. Eleven more variables have simple correlation measure with Ya between 0.30 and 0.40, 14 variables have correlation measures between 0.20 and 0.30, while eight variables had measures between .10 to .20. Only four variables had measures between 0 and 0.1. X3 had a measure of 0.00, X21 and X67 had a measure of 0.09,and X44 had a measure of 0.08. The above results clearly show a positive and strong relationship. It does seem that the evaluators do use the activity level variables in their rating of the overall team performance. Obviously the activity levels referred to are those they perceive when attending to the task of assessment.

As stated earlier, a multiple regression model using Xa and Ya is not possible at this time due to the small sample size of evaluators. While the lack of such an estimation model does not permit us to fully accept Hypothesis H1F, the result of the correlation analysis strongly suggests its acceptance. The fact remains that these results clearly show that positive relationships exist between Xa and Ya.

The contradiction between the results of the analysis of Hypothesis H1 and the analysis of Hypothesis H1F may suggest that the evaluators and team members may not

lend similar importance to these variables. This fact shall be investigated through the analysis and testing of Hypothesis H2, as stated in Chapter III.

Hypothesis H2

Hypotheses H1 and H1F seem to contradict one another. This discrepancy may be due to the fact that team members and evaluators view the importance of the variables differently. An investigation through the testing and analysis of Hypothesis H2 which is the importance of the descriptors as perceived by the evaluators as being different from the importance of the descriptors as perceived by the team member will be carried out.

The original 10-point rating scale survey (Appendix A) who administered to the team members. In this survey the team members are asked the same question asked of the evaluators. They have to report their perception on the importance of these variables. These are analyzed against those reported by the evaluators.

The descriptive statistics of these results for the evaluators are reported in table 3.1, while those for the team members are reported in table 4.8. In this comparative analysis the original survey of importance using all initial 71 variables was reused. Since the original study, using only the evaluators survey results showed that only X6 (student interest in team) was insignificant and thus was excluded from further consideration when designing the activity survey. The original importance survey was reused for the sake of saving time. When administered in its original form, X6 (student interest) proved to be insignificant for the team members as well.

Table 4.8 shows the descriptive statistics for all the variables labeled X1 through X71 for the team members. The results of the evaluators' survey are found in table 3.1 in the Appendix. Included in both tables are the measures of central tendency, i.e., mean,

trimmed mean and median, and the standard deviation. Also shown are the actual sample sizes (N), 33 for the evaluators and 99 for the team members, and the number of missing observations for each case (N*).

High Scores

Examination of table 4.8 shows results consistent to those found in table 3.1. Once more, at the exception of very few variables (X6, X7 and X10), all variables had a substantially high average score, 6 or above. Most were actually 7 or above. Overall, the lowest average score was obtained for variable X6 (Student interest in team), 4.830 for the team members.

When using the median scores, again, in both samples, evaluators and members, the same variables seem to be weak, X6 and X7. All the other variables had a high median score ranging from 7 to 10, except very few variables, which had a median score of 6. These are variables X10, X27 and X48 in the case of the evaluators' sample and X10 only for the members' sample.

A further evaluation of the individual data entries clearly shows that overall support for variable X6 (Student interest in team) is generally lacking. The similarity of the low average scores of 4.688 and 4.830 in both samples, clearly support this view.

From the above consistent high scores, at the exception of X6, the earlier conclusion reached in Chapter III is once more confirmed. The list of evaluation variables has generally been well received and accepted by the practitioners in the field, evaluators and team members alike.

Significance Testing

Two forms of testing shall be performed. The first will be a simple significance test of the means and medians, while the second one will involve the test of the difference of the means between the two samples.

The same procedure used in Chapter III for the evaluators shall be reused in the case of team members. The measures of central tendency are tested against a pre-selected threshold value instead of using the population mean, using the same rationale presented in Chapter III.

In this testing stage, both parametric and non-parametric testing were performed. In the first case a simple significance t-test of the mean was used. In both samples a null Hypothesis of a mean equal to 7 was tested against an alternative of a mean less or equal to 7. The selection of this one-tail test is based on the assumption that the higher the score the more desirable is the variable. It should be noted, however, that the highest possible score is 10. The non-parametric testing consists of a sign test for the median. Again in both samples, the null Hypothesis of a median equal to 7 was tested against an alternative of a median less or equal to 7, for the same reason stated earlier.

Table 4.9 shows the results of the mean tests for the team members. Similar results for the evaluators are found in table 3.2. Table 4.10 shows the results of the sign tests for the median, for the team members. These results for the evaluators are found in table 3.3. The mean tests confirm the earlier observation made from tables 4.8 and 3.1, that is the statistical insignificance of X6 (student interest), X7 (out of meeting discussion) and X10 (connection with other school councils). This was the case in both samples, evaluators and members alike. Additionally the analysis of the evaluators'

sample shows a lower significance for X27 (report to school committee) and X48 (more than one leader).

The median tests reported in tables 4.10 and 3.3 resulted in the same conclusion as the mean tests. Variables X6, X7 and X10 showed insignificance in both samples while X27 and X48 show slight insignificance in the sample of evaluators.

Test of Difference of the Means

The second test is one where both mean scores for the evaluators and the team members are compared with each other using a difference of the means test.

Where:
Ho: $\mu a - \mu = 0$
Ha: $\mu a - \mu \neq 0$
μa is the mean for the evaluators and μ is the mean for the team members.

Table 4.11 shows the results of a test of the difference of the means of both samples, for each variable. There are 71 such tests, one for each variable. Out of these 71 tests, only two showed a significant difference of means. These would be X23 (fewer referrals to special education) and X33 (management skills). In the case of X23, administrators do see fewer referrals to special education as a product of pre-referral team activities. Team members are not necessarily focused on this objective of decreasing referrals to special education. In the case of X33, administrators may not see the importance of management skills as a component of team tasks. Evaluators may view that management is a task of the building administrator.

Generally, the results of both surveys on the importance of activities seem to remain very consistent in both samples. Evaluators and team members alike seem to lend the same degree of importance for the set of activity variables as presented. Therefore, Hypothesis H2 as stated cannot be accepted. Following the study design presented in

Chapter III, the next step shall be to investigate other reasons that may prove to be the source of the discrepancy between Hypotheses H1 and H1F. While originally the design called for the investigation of possible bias and difference of culture, the exit interview of the evaluators when responding to the activity survey revealed a possible different reason. Most evaluators reported that they did not have first hand knowledge of the actual activity levels of the team. This information would lie with the principal of the building who tends to be a member of the team. In most cases the team members do not have established procedures to report activity levels to their evaluators, nor is there any evaluation tool, which could be used to assess team functioning.

For the reason stated above, before any final conclusion can be drawn, it is worthwhile to investigate how the team members reach their performance self-evaluation and whether they are using those activity variables or not. In order to perform such an analysis, a third Hypothesis shall be investigated. This Hypothesis H3 will essentially be a duplication of the initial H1T presented in Chapter III.

Hypothesis H3

Hypothesis H3 is defined as the descriptors activity levels as reported by the team members to estimate the self-evaluation of the performance of the team by its members.

In testing this Hypothesis a multiple regression analysis of the activity levels (X) as reported by the members on the self-evaluation of team performance (Y) will be performed. The results of this multiple regression analysis are presented in table 4.12.

The resulting linear regression equation is presented below:

$$
\begin{aligned}
Y = {} & 0.644 + 0.0343\,X1 + 0.0887\,X2 + 0.011\,X3 + 0.263\,X4 - 0.139\,X5 \\
& - 0.055\,X6 + 0.0397\,X7 + 0.016\,X8 - 0.023\,X9 + 0.155\,X10 - 0.029\,X11 \\
& + 0.284\,X12 - 0.0588\,X13 - 0.217\,X14 - 0.114\,X15 + 0.077\,X16 \\
& - 0.0302\,X17 - 0.047\,X18 + 0.0637\,X19 - 0.0076\,X20 + 0.0552\,X21 \\
& + 0.0612\,X22 + 0.101\,X23 + 0.056\,X24 - 0.091\,X25 + 0.070\,X26 \\
& + 0.0003\,X27 - 0.048\,X28 + 0.0493\,X29 + 0.041\,X30 + 0.019\,X31 \\
& - 0.281\,X32 - 0.0050\,X33 - 0.0060\,X34 - 0.0290\,X35 - 0.014\,X36 \\
& + 0.107\,X37 + 0.099\,X38 + 0.033\,X39 - 0.0194\,X40 + 0.046\,X41 \\
& - 0.0562\,X42 + 0.0691\,X43 - 0.0742\,X44 + 0.037\,X45 - 0.0184\,X46 \\
& + 0.186\,X47 - 0.154\,X48 - 0.0435\,X49 + 0.0657\,X50 - 0.0166\,X51 \\
& + 0.0289\,X52 - 0.0823\,X53 + 0.044\,X54 + 0.0831\,X55 + 0.0833\,X56 \\
& + 0.0200\,X57 + 0.064\,X58 - 0.113\,X59 + 0.120\,X60 - 0.051\,X61 \\
& - 0.018\,X62 + 0.0545\,X63 - 0.008\,X64 - 0.097\,X65 + 0.097\,X66 \\
& - 0.0348\,X67 - 0.177\,X68 + 0.210\,X69 - 0.0244\,X70
\end{aligned}
$$

Very similar to the earlier results obtained from the regression of X on Ya the results of the above regression are not conclusive. The R-Square is 71.8, the adjusted R-Square is 45.7% and the analysis of variance shows an F value of 2.76. Again this weak performance may well be the result of the type of repeated scores used. Additionally, the results of the activity survey from the team members seem to indicate a high level of multicolinearity. Only seven out of the 70 variables show significant regression at the 90% or better confidence level. These are X3, X20, X27, X33, X34, X36, and X64. When the significance level is lowered to 80% or better this set of significant variables is augmented by six more variables, X8, X9, X11, X31, X51, and X62. The unexpected high occurrence of negative slopes further reinforces the need for further analysis before any final conclusion can be drawn. There are 33 variables with negative slopes. Nine of these variables are shown as statistically significant.

At this stage, in a similar fashion to the analysis performed for Hypothesis H1, a simple correlation analysis is performed between each variable X and Y. The results are presented in Table 4.13. The simple correlation between X and Y prove to be much

stronger. There are five variables with a correlation measure of .50 or better. These are X4, X16, X31, X36, and X69. There are 23 variable with correlation measures between 0.40 and 0.50. 15 variables with correlation measures between 0.30 and 0.40. There are 17 variables with correlation measures between 0.20 and 0.30. There are nine variables with correlation measures between 0.10 to 0.20. Only variable X44 (diversity in group composition) has a low correlation measure of 0.08. None of these correlation measures is negative, illustrating once more that the negative slopes obtained from the multiple regression may well be the results of multicolinearity or other characteristic of the data set. At the present time these results shall be sufficient in accepting Hypothesis H3. The team members not only seem to think that the activity variables are important, as evidenced by the results of the analysis of H2, but they actually use them in their self-evaluation.

These latest results seem to bring into question the earlier findings of Hypothesis H1. It seems that while the results of H1 may not have been conclusive, H1 itself should have been accepted. Again the earlier inconclusive results of H1 may have been due to the fact that evaluators have generally limited knowledge of the activity levels within the groups, as reported during the exit interview of the evaluators. Any further implementation or application of this evaluation tool should be preceded by the establishment of a proper structure for the team members to report their activity levels to their evaluators. This practice shall ensure the accuracy and integrity of the measurement of the activity levels.

Another observation made several times during the previous analyses is the possible presence of multicolinearity and the possibility of reducing and or grouping the

set of variables. Such subsets if and when possible will increase the practicality and application of this evaluation tool, while increasing its reliability.

Using the data set of Hypothesis H1 (X on Ya) a stepwise regression is presented in table 4.14. This stepwise regression uses an F value of 4 to enter the subset. The final results of this stepwise regression are a subset of nine highly statistically significant variables, with an overall R-Square of 43.47%. These variables are X3, X7, X9, X12, X13, X26, X33, X44 and X56. This grouping through stepwise regression is based solely on the statistical evaluation and is specific to this data set. Any grouping of a general nature should include additional statistical analyses, such as correlation analysis and must include a thorough literature review. A discussion on possible variable subsets and/or reduction of variables is discussed in Chapter V. A presentation of possible future implications and applications of this study is presented in Chapter V.

CHAPTER V

CONCLUSIONS, FUTURE APPLICATIONS AND CONSIDERATIONS

Review of Study's Significance

The advancement of education reform legislation has provided the opportunity for parents, community and school staff to engage in school improvement. Teams drive the site-based management shared decision-making approach to restructure education. Teams are entrusted with responsibilities for special education and education reform. They will require evaluation. This evaluation must come from superintendents of schools and other central office administrators. These administrators must become aware of their responsibilities to the team as support, supervisors and evaluators. They must be able to recognize activities of a functioning team and must understand how to help the team that is not functioning.

Darling Hammond (1993) reports the second wave of reform as the decentralization of power and the professionalization of teaching to improve education. Teams will have to develop from a group of constituents. Staff members will participate in shared decision making along with community members, parents and, where applicable, students. It is imperative that we begin the process of working as teams to bring quality education to all of our students.

The complexity of working as a team will require training, and other forms of assistance and support to team members. Without training, the teams are unlikely to thrive. Factors and variables for team building can be considered in a well thought-out introductory plan supported by the superintendent, school committee (school board) and

administration. Understanding the importance of these variables to team function must be the consideration of the school district's leadership.

This study attempts to report on the descriptor variables and activities of functioning teams so that evaluation and action plans for training teams can be understood by school administration. In this study, the author has combined both a literature review and quantitative analysis of team functioning factors and variables in order to determine whether teams based at school sites are functioning or not. There is a need to establish a method by which the decision makers and evaluators, (i.e., superintendents, special education directors and other school administrators) can evaluate these teams. Insofar, there has been much reported on the important factors in team performance; however, little has been done in terms of developing an evaluation and assessment instrument.

This study followed a multi-step process to establish an evaluation instrument. Step one was to develop a general list of variables of training and support derived from established research and theory in the field (Appendix B). Step two was to develop a list of evaluation factors based on an open-ended survey of administrators from the public schools in the Commonwealth of Massachusetts (Appendix A). The rationale in selecting central office administrators is due to their role as evaluators in charge of assessing the teams' performance. Step three was a cross analysis of the first two steps, resulting in a list of variables derived from the survey of the evaluators and validated by the literature review. Step four was a statistical analysis of the rating of these factors by the administrators. Step five was the development and implementation of a survey to determine the activity levels of teams on the variables and the rating of the overall

functioning of the team as estimated by the activity on the variable (Appendix C). Step six, a statistical analysis of activity levels on the descriptor variables as reported by evaluators and team members was utilized to determine if these variables are used to estimate team functioning.

This research presents a departure from traditional research in this field. An actual evaluation model of team performance is presented in the form of a questionnaire. This model will allow the quantitative assessment and statistical analysis of team performance. While this study is used in site-based management in the Commonwealth of Massachusetts public schools, it can be duplicated in other instances of site-based management. It is predicted that this evaluation model will gain wide acceptance by the practitioners, as it is derived directly from their own informal evaluation techniques and beliefs. In addition, team members could use this model for self-evaluation. The statistical and quantitative reviews of the results would indicate areas of weakness where training might be needed and/or where other forms of support could be offered to increase the teams' level of functioning.

Study Strengths and Weaknesses

The strength of this study is the multi-step procedure to determine the variables utilized to estimate team functioning. The literature review was significant and had impact on the preparation of the rating scale survey (Appendix A) utilized to further analyze administrators' opinions on the importance of the factors before they were incorporated into the activity survey (Appendix C). The cross-analysis of descriptors provided by administrators in the open-ended survey (see Chapter III) with the literature review provided a theoretical base for inclusion of these variables in the rating scale. The

resulting activity survey contains both a theoretical and practitioners' perspective to team variables chosen on the questionnaire which can be used to estimate team functioning.

The weaknesses of the activity survey included the utilization of the five-point Lickert scale with a low of 1 to a high of 5 and the estimation of the overall function level of the team measured on a four-point scale. This proved to be cumbersome in interpretation of the statistics. This author utilized the work of Sharon Rallis who in 1989 assessed building-based support teams in Rhode Island. In her study, she categorized teams as thriving, functioning, functioning with problems and non-functioning. These descriptors seemed to fit this study's attempt to estimate the overall team functioning. In review of this, the author suggests the addition of a fifth descriptor of the overall rating to estimate team functioning. This variable for estimation would be functioning with skill and would allow the descriptive term functioning to be a mid-point response.

The utilization of a five-point Lickert scale did not allow for continuous measures to determine activity levels as perceived by both team members and evaluators on these variables. The choice of only five points caused repetition of the number selected to rate activity levels and overall team functioning. This discrete data set would not behave well with the use of multiple stepwise regressions. The data set while anticipated to have a positive linear relation to overall team functioning appears to have a non-linear relationship. In addition, numerous negative slopes were observed. It is this author's strong belief that this was the result of too few data values too often repeated. A possible way to look at this problem in the future is to consider a dichotomous response to the variables. The issue of dichotomous response yes or no to variables was examined by Predmore and Khelfaoui of Manhattan College in a research work presented at the

Association of Employment Practices and Principles Conference in Miami, Florida in October, 1997. They determined that the use of the Lickert scale provides a database that is less meaningful when we seek to understand the presence of a behavior and its estimation in assessing performance. The Lickert scale provides scores usually clumped around a central measure of tendency leaving the evaluator to interpret at what level the activity occurs. Yes or no lends itself to a definitive answer.

Another view, would be to use a larger range, i.e. 1 to 100, on which participants could rate the activity level on the specific variable. This scale from 1 to 100 would lend itself better to data analysis which requires continuity. The larger range may prove to be, however, cumbersome for participants to utilize unless specific instructions are given as to what a scale of 1 to 100 may relate to when perceiving team and team members' activity. The participant would have to justify his/her activity rating for the variable against the five (5) descriptors to estimate overall team functioning. Future research could allow experimentation with these different response designators.

Ken McKenzie of the University of Kansas in a research work presented at the Association of Employment Practices and Principles Conference in San Francisco, California in October 1998 referred to the variables often associated with perceptions rated on a Lickert scale and analyzed through a regression analysis as attempting to calibrate with a knob data which is knobless. His analogy is based on the radio knob used to fine-tune a signal. The signal is out there and defined by a frequency. This is not true of statistical data on team functioning. In other words, we seek the best data set to predict functioning or performance from perceptions measured and analyzed in a less than exact formula. McKenzie makes use of linear programming to determine the best

set of variables for estimating performance. He also indicates that linear programming can be used to estimate the amount at which each variable in the best set must operate in order to maximize the performance on other contributing variables and overall performance.

The reliance on linear programming was not in the scope of this study which called upon correlation and simple regressions to determine the variables included in the activity survey which would estimate overall team functioning. Linear programming, while possibly more exact than the statistical analysis chosen by this author, would lessen the importance of the literature review which is very important when determining variable subsets which contribute to team functioning or optimizing team performance. This area will be described in more detail when customization of the survey is discussed in relation to variables to include in future administrations of this instrument.

The presence of multicolinearity among the factors utilized was significant in providing data on subsets variables, but it also caused difficulty when attempting to use multiple regression and stepwise regression analyses. The utilization of correlation was helpful in determining subsets and is discussed in the following section entitled "The Best Subset for Estimating Overall Team Performance." This author will suggest that in the future, the survey be built utilizing fewer variables. One would have to choose the variable based upon the ability of that factor from a given subset to represent the other variables when estimating overall team performance. This can be done through the use of multiple regression analysis on the selected subset or by reviewing the simple correlation measures and deciding upon the variable in a subset with the highest correlation with Y. Such technique would optimize the efficiency and the

implementation of the survey by reducing the number of questions on the instrument. This is another customization of the survey to be given consideration prior to future applications of the instrument. The surveys can be made specific to the function of the school team based upon the anticipated product of that team. In this study, the inclusion of both building-based support team product variables and school governance council product variables caused confusion. The anticipation that teams of school staff, parents and community members will work upon curriculum, assessment, strategic planning, staff development, community building and parent workshops will call for further customization as to product-specific questions.

The major strength of this study is its design and the procedure for choosing the variables that developed the rating and activity surveys. The author believes that the procedure can be duplicated in other environments to gain a sense of variables considered important to team functioning. Some of these will be product-specific to the organization or field in which the open-ended description survey is provided. The development of a rating scale will help determine the importance placed on the variables by evaluators and team members. The resulting activity survey could be customized as to make the instrument more time efficient and affective by adjusting the number of variables and the scale utilized to assess activity levels and team functioning.

Summary of the Literature

This author feels that the variables indicated in the literature review would be applicable to other environments. One could estimate that these variables of team functioning are somewhat predictable and derived from common sense. The variables as provided in the literature were utilized by the author to determine subsets of variables that

would correlate with each other as factors which would optimize team performance. These subsets were determined by the author prior to the use of any statistical analyses. The best subset as provided through statistical analysis at the end of Chapter IV will be reviewed in comparison to the subset devised by the author.

Much like not depending on a best set of variables derived from statistical analysis, we cannot depend on mandate and regulations given to establish team practices. Teams have been suggested in special education since the late 1970s through the early 1990s. These practices, while suggested in special education regulation and, at times, legislated, were implemented, thrived, functioned or failed depending on the introductory support and acceptance of the team practice in individual schools and districts. Parent and staff participation were dependent on the value the team had in the school's operating procedure. The principal's behavior, activity and attitude toward the team have significance in the effectiveness of team function (Goldring & Rallis, 1993; Rallis, 1989). Building-based teams and pre-referral teams met with success if they were fully supported by higher authorities within the school district. The superintendent and school committee must develop and adopt a plan to train, implement, support and evaluate team practices (Chalfant, 1984; Comer, 1985; Oches, 1989 and Stokes & Axelrod, 1981).

We must review the literature to understand what variables can optimize team functioning. The Massachusetts Business Alliance for Education and the Pritchard Committee have recommended management training and improving leadership skills of principals, training of teams in group process skills, group dynamics, shared decision making, consensus building, and conflict resolution as ways to make teams more effective. Teams need basic activities to occur such as regular meeting times, written

agendas, and meeting notifications to be posted. Complex areas of leadership, decision-making responsibility, team goals and a vision for the team need attention as these variables have been found to be problematic if not addressed during the development of the team. The balance of power between team and principal, team members to one another and the ability to represent constituents and still interact as individuals in a team process are confounding and competing dynamics. Establishing team norms and specific roles for team membership can control these dynamics (David, 1992; Hess, 1995; Minkoff, 1995; Rhodes and Digate, 1995; Tietal, 1994). Superintendents, school committees and principals must work together with staff and constituents to prepare for the implementation of site-based team practices. As Education Reform Legislation progresses toward the vision of restructured schools, team development and maintenance through evaluation will need to be addressed.

Various authors have developed training suggestions and reported a number of factors, which would lead to successful team development and implementation. The literature dates back to the special education movement in the late 1970s and early 1980s. Stage development theory of groups, the change process, group process and dynamics and methods for providing consultation and collaboration were cited (Carew, Carew and Blanchard, 1988; Hall, 1980; Idol-Maestas and Ritter, 1985; Stokes & Axelrod, 1981). These factors have been reported qualitatively and in narrative descriptive forms. The research of the late 1980s and 1990s addresses consensus building, conflict resolution, risk taking, school improvement planning, brainstorming, problem solving, and decision making as significant components of team training. In each decade, group process and activities of functioning teams were cited. The research points to the importance of

administrative support (Carew, Carew and Blanchard, 1988; David, 1992; Hess, 1995; Minkoff, 1995; Rhodes & Digate, 1995; Schacter Rees and Amaral etal, 1992).

Recent literature has focused on the role of culture in support and acceptance of innovations. Teams are an innovation of special education and reform. Teams have to establish their own culture to build and support team activities, membership and operating procedures. Schools must become more aware of changing their organizational culture to accept innovations including team practices (Dolan, 1994; Senge, 1990; Sergiovanni, 1992; Sergiovanni, 1994; Teitel, 1994). The emphasis placed on the perception of the consumer or actual team participant leads to a need for team self-evaluation, as well as the insights of an informed external evaluator.

Determining Subsets from the Literature

Based upon the literature summary that precedes this section and other research reported in Chapter II, this author prepared subsets of variables based on perception prior to statistical analysis. The author will review these subsets to investigate the inter-correlation and highest correlated variable to estimating overall team performance (X on Y and Xa on Ya.) The intent of this review is to suggest that the highest correlated variable to Y could be used to represent all other variables in a best subset to estimate Y and Ya, customizing the activity survey so that it is more time efficient in its administration. This may lend the instrument to be more user friendly and a quick assessment to determine team functioning.

Subset variables based on the literature are grouped together below as perceived by the author:

- Variables that indicate teams have direction:

X7 the team has a stated mission
X8 the team sets shared goals
X19 team members have defined roles
X23 team members are goal oriented
X27 team members alternate roles so that there is more than one leader

- Team process variables:

X9 team members have the ability to communicate in a common language
X11 team members utilize open communication in the team process
X15 team members willingly accept consensus
X25 team members collaborate with one another
X26 the team manages conflict without disrespectful behavior
X37 team members are provided the opportunity to share opinions and concerns equitably during meetings

- Team variables indicating the ability to problem solve:

X10 the team members have the ability to problem solve
X12 team members have the ability to come to problem resolution
X16 the team has the ability to follow through with decisions made

- Variables of team dynamics:

X15 team members willingly accept consensus
X24 team members have trust in one another
X30 the team members are willing to take risk
X41 team members respect one another
X42 the team members represent diversity of opinion
X61 the team follows a procedure
X66 the team demonstrates compatibility
X68 there is honesty and sincerity among the team members
X69 the team uses positive words like "thank you" when addressing one another
X70 the team has guidelines to follow

- Two administrative-related subsets:

X2 the team is supported by administration
X18 the team members have a positive relationship to administration

X1 there is a plan for a periodic evaluation of team progress
X6 the team maintains clear lines of authority and responsibility in line with the education reform act
X20 the team has the ability to act within district parameters

X29 the team is supported through training
X32 team decisions are made on behalf of student interest
X61 the team follows a procedure
X70 the team has guidelines to follow

- Variables Related to Effective Team Meeting Facilitation

X28 the team members perceive their involvement in conducting effective meetings
X33 team members and staff are provided a consistent time for team meetings
X34 the team agenda is set prior to the meeting
X35 the team is flexible and meets in a time block to meet the school's need
X62 team members have regular attendance at meetings
X63 the team has agreed upon minutes

As indicated previously, the teams are product-specific; therefore, the author has placed these variables together into subsets. One subset indicates the products of school governance councils. The other subset is specific to products of building-based support teams.

- School Governance Councils:

X17 the team is willing to advocate for resources in public forums
X21 the team develops a meaningful school improvement plan
X43 team members are actively involved in annual strategic planning
X48 the team gives input on school governance
X49 the team carries out cooperative planning with PTO, Title I, PAC and other parent groups
X56 the team develops reports to the school committee
X57 the team plans personnel professional growth activities
X58 the team demonstrates management skills
X67 there is a high level of participation between the teams at the site

- Building-Based Support Teams:

X50 team members act as a pre-referral resource instead of the referral step to special education evaluation
X51 team activities reduce IEP evaluation
X52 the team develops reports on special education
X53 the team receives referrals from staff
X55 the team has fewer referrals to special education evaluation

- Several variables grouped together dealt with the role and involvement of parents on the teams.

X40 the school team process increases parental community programming
X44 parents are members of school teams
X45 team members have a positive relationship to parents

- A subset that was product-oriented and dealt with site acceptance of the team included the following variables.

X3 team members have a positive relationship with staff members at the site
X4 team members are perceived as having knowledge and expertise
X5 the staff respects team members
X31 staff of the school conveys satisfaction about the team
X36 staff value the team's efforts
X46 team members have out-of-meeting discussions about team activities between self and staff
X47 school staff have open participation on the team
X55 the staff perceives success for students referred to the team
X59 the team seeks feedback from constituents

- And a somewhat related subset to the aforementioned grouping:

X13 team members exhibit instructional curricular leadership
X14 team members generate an amount of workable ideas
X60 the team gains visibility by the ideas it generates
X65 the team can use its expertise

- Finally, two factors that were paired together:

X38 team members listen to and support one another's opinions and points-of view
X39 team members synthesize important information

Correlation of Anticipated Subsets

A review of the correlation measures of each subset provided the following observations for discussion. The subset of X7 (stated mission), X8 (set goals) and X23 (goal oriented) revealed high correlation measures. Somewhat related but not as highly correlated with this grouping was X19 (defined roles) and X27 (alternating roles, including that of leader.)

The subset of X9, X11, X15, X25, X26 and X37 did correlate highly when rated by team members. Evaluators' responses also correlated highly on these variables of communication, consensus, collaboration and conflict management. The analysis of correlation led to the addition of X12 (problem resolution), X10 (problem solving), X14 (workable ideas), X17 (advocating for resources) and X64 (the ability to stay focused) as related variables to this subset.

The subset of X15 (consensus), X24 (trust correlated) and X14 (workable ideas) revealed high correlation measures derived from the analysis of the evaluators' responses. These variable statistics supported the anticipated correlation with X66 (compatibility), X68 (honesty and sincerity), X69 (thank you) and X70 (guidelines). Administrators also associated X65 (team uses its expertise) with this subset.

Team members' responses to this same subset were more in line with the perceptions of the author. The responses revealed high correlation measures among X15 (consensus), X24 (trust), X30 (willingness to take risk), X41, (respect), X66 (compatibility), X68 (honesty and sincerity), X69 (thank you) and X70 (the team has guidelines to follow.) However, the anticipated high correlation between X61(the team follows a procedure) and X42 (the team members represent diversity of opinions) did not take place.

Subset of X2 and X18 showed high correlation measures as indicated, with administrative support and relationship proving to be activities perceived by both team members and evaluators in a similar fashion.

The responses from both evaluators and team members showed high correlation measures among the subset variables, X1, X20, and X6. The area of periodic evaluation,

operating in district parameters and maintaining lines of authority and responsibility in line with Education Reform did correlate highly with X32 (decisions are made on behalf of student), X29 (supported through training), X61 (follow procedures) and X70 (to follow guidelines) as perceived by evaluators and anticipated by the author. Team members only chose X70 (guidelines to follow) as the only other team variable to correlate highly with X1, X6 and X20.

The subsets of variables that were product-specific provided correlation measures that were low for both school governance councils and building-based support teams. Building-based support team product-specific variables X50, X51, X52, X53 and X55 had a higher level of correlation among them. This may be due to the known activities of these pre-referral teams which have existed since the early 1980s in comparison to school governance council duties which are relatively new, starting in the mid 1990s.

Both evaluators and team members' responses provided high correlation among variables X3, X4, X5, X31 and X36. Further analysis allows for X47 and X59 to be included in the subset as anticipated by the author when looking to connect variables into meaningful subsets to team performance. Teams must have positive relations to staff, have knowledge and expertise if they are to be valued and respected by school staff. Team members also see staff participating in teams highly correlating with these variables.

In a similar fashion, X13 (team members exhibit instructional curricular leadership) and X14 (team members generate an amount of workable ideas) correlated highly in this subset as perceived by team members and evaluators.

A subset that was anticipated by the author to have high correlation was X28, X33, X34, X35, X62 and X63. These factors all dealing with effective meeting activities correlated in two different ways for the reporting groups. Evaluators' responses led to high correlation between X33 (consistent time for meetings), X34 (set agenda) and X35 (flexible meeting time to fit site needs.) Team members' perceptions revealed high correlation as well between X28 (responsibility in conducting team meetings) and X34 (set agenda) and X61 (following procedures). Interestingly, factor X62 (team members have regular attendance at meetings) correlated highly with several variables in a number of subsets. This was especially the case when reviewing the subset of X62, X64, X66 and X68 that dealt with regular attendance, ability to stay focused, compatibility and sincerity and honesty. These variables were highly correlated with other team activities, especially when analyzing the results of the evaluators' responses.

The Best Subset for Estimating Overall Team Performance

These subsets were also reviewed to determine their contribution to estimating the overall functioning of team performance by both evaluators and team members. Factors X7, X8, X23 and X27 when correlated with Y and Ya, ranged from .30 to .59. Mission, goals and the willingness to share responsibility in roles would appear to be an estimation of overall team functioning. When reviewing X9, X11, X15, X25, X26 and X37, the correlation with Y and Ya is highest for X11, X25, X26 and X37. This suggests that open communication collaborating, sharing opinions and concerns equitably and conflict management do contribute to the overall functioning of the team. Variables X10, X12, and X16 all correlate highly. Problem solving, problem resolution and the ability to carry through on decisions are highly correlated to perceived team performance.

Team dynamics are perceived as an activity of the team that contributes highly to the rating of the team's overall performance in the minds of both team members and evaluators. In this subset which the author anticipated high correlation with overall team functioning as suggested by the literature review, X24 (trust), X30 (willingness to take risk), X41 (respect), X66 (compatibility), X68 (honesty and sincerity), X69 (positive words like thank you) and X70 (guidelines for the team to follow) did correlate highly with Y and Ya. The factor which did not fair as well in this subset was X15 (the team members' willingness to accept consensus). This may be due to the difficulty in reaching consensus or the concept of consensus which by definition anticipates that to reach it you are willing to comply with the team provided you can live with the team decision. This may be a factor to reword so that the concept of consensus is the understood element to be rated for activity in comparison to the willingness to accept the consensus decision.

The subset of administrative support and relations to the team correlated in the low .30 range to .39 with the overall team performance perceived by team members. Evaluators had a similar rating for their relationship to the team but a lower correlation as to their support contributing to team performance. This analysis helps to explain some of the correlation measures on administrative type task and activities of teams. The subset of X1, X6, X20, X29, X32, X61 and X70 shows high correlation to rating the overall functioning of the team by both groups on X61 (team procedure) and X70 (guidelines to follow). The group differs on the contribution X1 (periodic evaluation), X29 (training) and X6 and X20 (lines of authority); responsibility and ability to remain within district parameters contribute to the overall rating of the teams functioning. There is a slightly better correlation with X32 (decisions are made on behalf of student interest). This may

be a factor that should appear in guidelines and procedures for teams to follow. As it does appear to have support by both groups statistically, an area of training may be to determine team need and understanding on these administration variables or match them with perceptions of the evaluators.

The subset on effective facilitation of the team's meeting provides interesting results when comparing the perception of evaluators' and team members' responses as to the contribution these factors X28, X33, X34, X35, X62 and X63 make toward estimating the teams' overall functioning. The conducting of effective meeting is perceived as the responsibility of all team members by both groups. There are different perspectives by the team members on the activity level of X33 (consistent meeting time), X34 (agendas set prior to meeting), X35 (flexible meeting blocks of time), X62 (regular attendance) and X63 (agreed upon minutes). In each of these, the correlation between the evaluators' perception of the activity and overall performance of the team is higher than the correlation between the team members' responses and team performance. Further, analysis does reveal that there are high levels of correlation among these factors as rated in both groups (evaluators and team members). The issue of X62 (regular attendance at team meetings) is a variable that appears aligned with variables of respect and team dynamics. A consistent time to meet, variable X33, also provides for interesting discussion. Evaluators' responses show a high correlation for this variable especially when reviewing variables from the subset of team practices and procedures. Yet the team members appear to be rating the activity as to its lack of occurrence for the team. This may provide insights that team members are asking for more meeting time, but it is perceived by administrators as occurring. The team members know this activity does not

happen to the degree they require. This is further supported by the results of simple regression and stepwise regression analyses. This is an important observation, because it speaks to the importance that has been placed on the variable by both groups to team functioning. The future implication of this study anticipates helping administrators understand the needs of their teams if they are to optimize their functioning. Pointing out a possible inconsistency in need of team meeting time will be helpful to the system.

As indicated previously, the product specific nature of these teams is significantly important in the customization of the survey to effectively measure overall team functioning. This can be somewhat assumed from the low correlation which exists between these product-specific subsets and the contribution the occurrence rating of these activity variables made toward estimating the overall teams performance. Further analysis does reveal a discrepancy in perceptions that evaluators may have in relation to the perceptions of team members as to the level of their functioning. Variable X58 (management skills) is viewed by team members as highly correlated to their functioning, while administrators view it as contributing to the overall performance but to a lesser degree. This may indicate a cultural mismatch in information evaluators have of team activity. This may also be an explanation of the high correlation between variables X51 and X52 and Ya. Evaluators consider building-based support team members active in reducing IEP evaluations and developing special education reports as well functioning teams. Team members see these activities as less important to overall team performance, as evidenced by the low correlation scores. One of the insights provided by the exit interviews was that evaluators needed to find more formal procedures for gaining insights as to actual team activity. The analysis of the product specific variables seems to bear

out this concern that knowledge sharing is also an important feature to be derived from use of a formal assessment tool. Customizing the instrument to contain only product- or task-specific variables for the team to be assessed will eliminate the complexity and possible compromise of the data set. This was pointed out as a weakness in the instrument.

The involvement of parents on teams does not correlate highly with overall team performance ratings by either group. While the factors of X40, X44 and X45 correlated similarly as perceived by evaluators and team members, only X45 (team members have positive relationship to parents) showed acceptable correlation measures of .32 with Y and .40 with Ya.

Variables X47 (school staff have open participation on the team), X3 (positive relations with staff) and X5 (the staff respects team members) demonstrated high correlation with the rating of overall performance for both Y and Ya. Many of the variables in this subset appear to be more significant in the perceptions of team members as to overall performance and level of the activity occurrence.

The ability of the team to use its expertise, X65 and X14 (the team's ability to generate workable ideas) is also viewed as contributing to the rating provided for the teams overall performance. Two other factors in this subset, X13 (curriculum leadership) and X60 (visibility gained by the ideas it generates), which were anticipated to correlate highly among themselves and with Y and Ya, did so to a lesser degree.

In a similar group process, subset X38 and X39 exhibited high correlation between themselves, X37 and Y and Ya. Clearly the ability to synthesize information,

share concerns and opinions equitably and support one another around these factors contribute to team performance.

The variables of group process, group dynamic, group procedure, and guidelines are factors that can be used to measure overall team performance. Teams do need administrative support and positive staff relations. They must be product-oriented but must have boundaries in which to operate. The team needs training and a sense of how it will fit into the school site and within district parameters. The issues of becoming a team, collaboration and consultation are all part of the procedure of understanding how to use teams to get to the end goal of contributing to our educational environment. Teams can support school, staff and students or strategically plan for staff, school, district, parents and community. Part of the support the teams will need includes evaluation, supervision and training. This study was conducted to determine those variables that could be used to assess overall team functioning. The subsets suggested by the author have been reviewed and analyzed statistically. As intended, the variables can be used to assess team functioning as this study indicates the team members and evaluators do see these factors as important and can rate the occurrence of the activity to estimate overall team functioning.

As reported within the subsets, some variables appear more significant than others by analyzing the correlation with both Y and Ya. The survey instrument could be customized by using only those variables which correlated to a greater degree with estimation of the overall team performance using both Y and Ya. This would be one way of customizing the instrument for administration efficiency. One could further analyze

this set of variables statistically to incorporate only the best set of predictors of overall team functioning. One would apply a stepwise regression for the purposes of analysis.

Another method is to review the subsets for the highest correlated variable and determine its use in a new survey as representing all other subset factors. In this application, one could reduce the survey questions, but would have to assure the meaning of the question through definition of terms. Limiting the number of questions could cause errors in meaning that other questions may have rectified. Needless to say, in any reapplication and/or a redesign of the survey instrument assuring that the meaning of the question has universal or general understanding will give the instrument more integrity.

Analyzing the Best Subset

The best set as described at the end of Chapter IV is determined from a statistical analysis known as stepwise regression. This method leaves the literature out of the equation. This author will analyze this best subset but will also suggest a best subset. A variable from each subset as provided will be used to represent all other variables. This exercise is done with the intent of addressing customization of the survey instrument and how in future applications the results could define administrative support, training and action planning by the team members to improve performance.

The best set as developed from the statistical analysis is as follows:

X33 - Team members and staff are provided a consistent time for team meetings; T-value 5.70

X56 - The team develops reports to the school committee; T-value 3.96.

X44 - Parents are members of school teams; T-value –3.73.

X13 - Team members exhibit instructional curricular leadership; T-value –4.00.

X26 - The team manages conflict without disrespectful behavior; T-value –3.49.

X12 - Team members have the ability to come to problem resolution;

T-value 2.93.

X9 -Team members have the ability to communicate in a common language;

T-value –3.55.

X7 - The team has a stated mission; T-value 2.50.

X3 - Team members have a positive relationship with staff members at the site;

T-value 2.20.

In review of this subset, X33 appears to be the variable which most estimates team performance. When rated high as to occurrence of activity, so was the overall functioning of the team rated high. This is often a concern of team members who seek time to meet or desire the opportunity to continue work task with colleagues. Variables X12 and X56 both had positive results in estimating Y and correlated highly with overall team functioning. This was anticipated for X12 (problem resolution), but the initial analysis of X56 (reports prepared for the school committee) did not seem to correlate with overall team performance, although recent literature would suggest this activity is important to team functioning.

X26 (conflict management) provides data for discussion as the T-value would suggest that with the occurrence of this activity, the team's performance was rated low. This could indicate that a team is not functioning at a high performance level if it is continually having to manage conflict, even if handled in a positive fashion. The apparent negative slope of X13 and X14 to overall team functioning merits comment. One would anticipate a positive response to team members having instructional

leadership; however, this may not be seen as a function of the team. This may be an area which is reserved for the building principal or teacher leader. Variable X49 provides insights into possible cultural bias in regard to the role of parents on school teams. This topic will be taken up later under Culture and Bias.

From a literature perspective, X9 (communication in a common language) would be anticipated as a variable that would contribute to an overall high rating of team performance. The correlation with X9 on Y or X9a with Ya was .28. Two factors X7 and X3 would support literature review reports that a stated mission and positive staff relationships are essential to team performance. This again could be associated to the area of school culture.

In the subset provided by this author, variable X25 (team members collaborate with one another) had the highest correlation with Y and Ya. If this was to be the selected variable in the subset to represent communication factors, is it also the best representative for the ability to share concerns and opinions and accept consensus? One way to determine this is to perform further statistical analyses such as multiple regression within the subset itself. This should take place in future research on these variables in determining their estimation of overall team performance.

The following is a best subset suggested by this author that represents the variables from the previously suggested subsets derived from literature to estimate overall team functioning:

X25 – Team members collaborate with one another

X70 – The team has guidelines to follow

X47 – School staff have open participation on the team

X17 – The team is willing to advocate for resources in public forum

X23 – The team members are goal oriented

X16 – The team has the ability to follow through on decisions made

X65 – The team can use its expertise

X24 – Team members have trust with one another

X38 – Team members listen to and support one another's opinions and point of view

X45 – Team members have a positive relationship to parents

These variables were analyzed by review of simple correlation of X with Y and Xa with Ya. The variables represents the factors in the subsets, suggested by this author, that correlate the highest with Y and Ya.

Added to this best subset would be the task specific variables to fit the team or organization. This customization would be coupled with a more meaningful Lickert scale that would range from 0 to 9. Zero would be the absence of the activity in the team and 9 would be the highest rating signifying the occurrence of the activity on a regular basis. The overall functioning would still be determined on the descriptors provided in the study with the addition of functioning with skill, bringing a total of five levels of functioning for participants to rate overall team performance.

A customized survey instrument of this nature shall be tested in future research by this author. The limited number of questions may help with problem of multicolineality. The expansion of the Lickert scale may provide more continuous data which may facilitate the use of further multiple regression analysis. Variables can be defined to ensure understanding by the participant before rating the activity.

Once customized, the survey instrument can be administered, analyzed and help evaluators to support and train teams. Team members could find the tool simple to take and may decide to calculate baselines and establish benchmarks to determine enhancement of team performance. It is this author's opinion that the multi-step model used to determine this activity survey can be duplicated in other settings. The model allows for understanding of team variables to consider when developing high performance teams. This author believes that group process, group dynamics and team procedures would be variables common to teams across business and industrial environments.

Culture and Bias

The issue of culture and bias within an organization will remain a limitation of this study. Bias in organizational cultures will be difficult to control and may remain a factor that inhibits team performance. The literature has provided data to support the important role that principals, superintendents and school committees play in setting the stage for teams to develop within the organization of schools. More current literature directly addresses systemic thinking which must occur in a culture to create change. Communication is one of the tools to reshape culture. In education, the bias of the culture may have been captured by the variables associated with the participation of parents on teams. While educators see their relationship as positive with parents, they do not see them as contributing to the team. All of reform speaks to opening our doors to parents and the community. The governance of school is to be shared but will the culture of education allow for this or will individual bias toward parents and community inhibit the process. The culture of schools has been closed. The concept of collegiality and

working as a team internally to restructure education is relatively new. Teachers have had a history of working alone. One can only estimate that the inhibiting factors that existed throughout the 1980s to the development of building-based support teams may still exist. Some of these factors in the culture could have been biased toward special education students or change in work conditions. Special need students in the classroom required modification to the work activity of the teacher. The change to team practice was also different from the customary practice of working alone in the classroom. We must be aware of the culture and we must be aware of bias behavior. Leaders will be called upon to work through these factors as our schools restructure and move to team concepts to reform education and broaden our governance base in a customer-driven society.

Table 3.1: Descriptive Statistics Evaluators

Variable	N	N*	Mean	Median	TrMean	StDev
X1	33	0	7.606	8.000	7.862	2.680
X2	33	0	8.758	9.000	8.897	1.347
X3	33	0	8.879	9.000	8.931	1.111
X4	33	0	7.818	8.000	7.931	1.793
X5	33	0	8.545	8.000	8.621	1.301
X6	32	1	4.688	5.000	4.571	2.956
X7	32	1	4.969	5.000	4.964	2.469
X8	33	0	9.152	10.000	9.276	1.093
X9	28	5	7.429	8.000	7.538	2.063
X10	28	5	5.536	6.000	5.538	2.715
X11	28	5	7.464	8.000	7.500	1.835
X12	28	5	8.071	8.000	8.231	2.107
X13	28	5	7.357	8.000	7.462	2.248
X14	28	5	9.036	9.000	9.115	1.036
X15	28	5	8.679	9.000	8.731	1.307
X16	28	5	7.321	8.000	7.423	2.465
X17	32	1	8.906	10.000	9.071	1.553
X19	31	2	6.903	7.000	7.037	2.181
X20	32	1	6.469	7.000	6.571	2.342
X21	32	1	8.313	8.500	8.464	1.839
X22	31	2	8.742	9.000	8.889	1.390
X23	32	1	8.656	9.500	8.929	1.842
X24	31	2	8.129	8.000	8.333	1.803
X25	33	0	8.758	9.000	8.966	1.582
X26	32	1	7.094	8.000	7.250	2.176
X27	32	1	6.031	6.000	6.107	2.087
X28	33	0	8.273	8.000	8.414	1.701
X29	33	0	7.394	8.000	7.655	2.524
X30	33	0	8.000	8.000	8.103	1.732
X31	33	0	7.818	8.000	7.828	1.334
X32	33	0	7.727	8.000	7.966	2.004
X33	33	0	7.061	8.000	7.207	2.331
X34	33	0	9.152	9.000	9.172	0.834
X35	33	0	7.727	8.000	7.931	1.957
X36	33	0	6.485	7.000	6.621	2.600
X37	33	0	7.818	8.000	7.966	1.793
X38	33	0	8.303	8.000	8.379	1.357
X39	32	1	9.094	9.500	9.179	1.088
X40	32	1	8.625	8.500	8.679	1.157
X41	32	1	9.281	10.000	9.429	1.054

Continued next page

Table 3.1 Continued

Variable	N	N*	Mean	Median	TrMean	StDev
X42	32	1	8.438	9.000	8.607	1.625
X43	33	0	7.606	8.000	7.828	2.344
X44	33	0	7.545	8.000	7.724	2.181
X45	33	0	7.909	8.000	8.034	1.646
X46	32	1	6.781	7.500	6.964	2.537
X47	33	0	8.485	8.000	8.552	1.176
X48	31	2	6.097	6.000	6.148	2.357
X49	33	0	6.939	7.000	7.069	2.076
X50	32	1	7.562	8.000	7.679	1.917
X51	32	1	7.375	8.000	7.464	1.930
X52	32	1	8.938	9.500	9.143	1.435
X53	32	1	9.219	10.000	9.464	1.475
X54	33	0	8.545	9.000	8.724	1.752
X55	33	0	8.545	9.000	8.621	1.325
X56	33	0	8.939	9.000	9.034	1.248
X57	33	0	8.606	9.000	8.724	1.368
X58	33	0	8.545	9.000	8.828	1.804
X59	33	0	7.788	8.000	7.828	1.495
X60	33	0	8.394	9.000	8.517	1.580
X61	33	0	7.242	7.000	7.310	1.921
X62	33	0	8.970	9.000	9.034	1.075
X63	33	0	9.333	10.000	9.414	0.854
X64	31	2	7.968	8.000	8.148	1.923
X65	33	0	9.333	10.000	9.483	1.051
X66	33	0	9.303	10.000	9.448	1.075
X67	33	0	9.303	10.000	9.448	1.132
X68	32	0	9.313	10.000	9.357	0.931
X69	33	0	8.848	9.000	8.966	1.176
X70	33	0	9.273	10.000	9.379	1.008
X71	33	0	8.818	0.000	9.000	1.590

Table 3.2: T-Test of the Mean Evaluators

Test of mu = 7.000 vs mu < 7.000

Variable	N	Mean	StDev	SE Mean	T	P
X1	33	7.606	2.680	0.467	1.30	0.90
X2	33	8.758	1.347	0.234	7.50	1.00
X3	33	8.879	1.111	0.193	9.71	1.00
X4	33	7.818	1.793	0.312	2.62	0.99
X5	33	8.545	1.301	0.227	6.82	1.00
X6	32	4.688	2.956	0.523	-4.43	0.0001
X7	32	4.969	2.469	0.436	-4.65	0.0000
X8	33	9.152	1.093	0.190	11.31	1.00
X9	28	7.429	2.063	0.390	1.10	0.86
X10	28	5.536	2.715	0.513	-2.85	0.0041
X11	28	7.464	1.835	0.347	1.34	0.90
X12	28	8.071	2.107	0.398	2.69	0.99
X13	28	7.357	2.248	0.425	0.84	0.80
X14	28	9.036	1.036	0.196	10.40	1.00
X15	28	8.679	1.307	0.247	6.80	1.00
X16	28	7.321	2.465	0.466	0.69	0.75
X17	28	7.214	2.166	0.409	0.52	0.70
X18	32	8.906	1.553	0.274	6.95	1.00
X19	31	6.903	2.181	0.392	-0.25	0.40
X20	32	6.469	2.342	0.414	-1.28	0.10
X21	32	8.313	1.839	0.325	4.04	1.00
X22	31	8.742	1.390	0.250	6.98	1.00
X23	32	8.656	1.842	0.326	5.09	1.00
X24	31	8.129	1.803	0.324	3.49	1.00
X25	33	8.758	1.582	0.275	6.38	1.00
X26	32	7.094	2.176	0.385	0.24	0.60
X27	32	6.031	2.087	0.369	-2.63	0.0066
X28	33	8.273	1.701	0.296	4.30	1.00
X29	33	7.394	2.524	0.439	0.90	0.81
X30	33	8.000	1.732	0.302	3.32	1.00
X31	33	7.818	1.334	0.232	3.52	1.00
X32	33	7.727	2.004	0.349	2.08	0.98
X33	33	7.061	2.331	0.406	0.15	0.56
X34	33	9.152	0.834	0.145	14.82	1.00
X35	33	7.727	1.957	0.341	2.13	0.98
X36	33	6.485	2.600	0.453	-1.14	0.13

Continued next page

Table 3.2 Continued

Test of mu = 7.000 vs mu < 7.000

Variable	N	Mean	StDev	SE Mean	T	P
X37	33	7.818	1.793	0.312	2.62	0.99
X38	33	8.303	1.357	0.236	5.51	1.00
X39	32	9.094	1.088	0.192	10.88	1.00
X40	32	8.625	1.157	0.205	7.94	1.00
X41	32	9.281	1.054	0.186	12.24	1.00
X42	32	8.438	1.625	0.287	5.00	1.00
X43	33	7.606	2.344	0.408	1.49	0.93
X44	33	7.545	2.181	0.380	1.44	0.92
X45	33	7.909	1.646	0.287	3.17	1.00
X46	32	6.781	2.537	0.448	-0.49	0.31
X47	33	8.485	1.176	0.205	7.25	1.00
X48	31	6.097	2.357	0.423	-2.13	0.021
X49	32	7.375	1.930	0.341	1.10	0.86
X52	32	8.938	1.435	0.254	7.64	1.00
X53	32	9.219	1.475	0.261	8.51	1.00
X54	33	8.545	1.752	0.305	5.07	1.00
X55	33	8.545	1.325	0.231	6.70	1.00
X56	33	8.939	1.248	0.217	8.92	1.00
X57	33	8.606	1.368	0.238	6.74	1.00
X58	33	8.545	1.804	0.314	4.92	1.00
X59	33	7.788	1.495	0.260	3.03	1.00
X60	33	8.394	1.580	0.275	5.07	1.00
X61	33	7.242	1.921	0.334	0.73	0.76
X62	33	9.333	0.854	0.149	15.70	1.00
X64	31	7.968	1.923	0.345	2.80	1.00
X65	33	9.333	1.051	0.183	12.76	1.00
X66	33	9.303	1.075	0.187	12.31	1.00
X67	33	9.303	1.132	0.197	11.69	1.00
X68	32	9.313	0.931	0.165	14.05	1.00
X69	33	8.848	1.176	0.205	9.03	1.00
X70	33	9.273	1.008	0.176	12.95	1.00
X71	33	8.818	1.590	0.277	6.57	1.00

Table 3.3: Wilcoxon Signed Rank Test Evaluators

Test of median = 7.000 versus median < 7.000

	N	N Missing	N for Test	Wilcoxon Statistic	P	Estimated Median
X1	33	0	29	278.0	0.906	8.000
X2	33	0	31	474.0	1.000	9.000
X3	33	0	29	435.0	1.000	9.000
X4	33	0	28	307.5	0.992	8.000
X5	33	0	27	364.5	1.000	8.500
X6	32	1	30	66.0	0.000	4.500
X7	32	1	28	39.0	0.000	5.000
X8	33	0	32	523.0	1.000	9.000
X9	28	5	26	219.0	0.868	7.500
X10	28	5	23	58.0	0.008	5.500
X11	28	5	23	176.5	0.882	7.500
X12	28	5	22	201.0	0.993	8.500
X13	28	5	24	190.0	0.876	8.000
X14	28	5	28	401.0	1.000	9.000
X15	28	5	24	292.0	1.000	8.750
X16	28	5	24	174.5	0.762	7.500
X17	28	5	26	199.0	0.729	7.500
X18	32	1	29	417.5	1.000	9.000
X19	31	2	27	190.0	0.514	7.000
X20	32	1	28	153.5	0.132	6.500
X21	32	1	32	434.0	0.999	8.500
X22	31	2	27	363.0	1.000	9.000
X23	32	1	29	391.0	1.000	9.000
X24	31	2	23	248.0	1.000	8.500
X25	33	0	32	482.5	1.000	9.000
X26	32	1	28	225.0	0.696	7.500
X27	32	1	29	100.5	0.006	6.000
X28	33	0	29	372.5	1.000	8.500
X29	33	0	28	267.0	0.929	7.500
X30	33	0	29	348.0	0.998	8.000
X31	33	0	24	253.0	0.998	8.000
X32	33	0	28	310.5	0.993	8.000
X33	33	0	30	275.5	0.815	7.500
X34	33	0	33	561.0	1.000	9.000
X35	33	0	27	299.0	0.996	8.000

Continued next page

Table 3.3 Continued

Test of median = 7.000 versus median < 7.000

	N	N Missing	N for Test	Wilcoxon Statistic	P	Estimated Median
X36	33	0	29	181.0	0.218	6.500
X37	33	0	24	240.0	0.995	8.000
X38	33	0	25	306.0	1.000	8.500
X39	32	1	28	406.0	1.000	9.000
X40	32	1	28	399.5	1.000	8.500
X41	32	1	30	463.0	1.000	9.500
X42	32	1	24	273.0	1.000	8.500
X43	33	0	27	261.5	0.960	8.000
X44	33	0	27	258.0	0.953	7.500
X45	33	0	27	300.0	0.996	8.000
X46	32	1	26	168.0	0.429	7.000
X47	33	0	29	421.0	1.000	8.500
X48	31	2	26	96.5	0.023	6.000
X49	33	0	26	176.0	0.510	7.000
X50	32	1	25	229.0	0.964	7.500
X51	32	1	27	231.0	0.846	7.500
X52	32	1	32	498.5	1.000	9.000
X53	32	1	29	426.0	1.000	10.00
X54	33	0	32	459.5	1.000	9.000
X55	33	0	29	415.5	1.000	8.500
X56	33	0	28	402.5	1.000	9.000
X57	33	0	30	439.0	1.000	8.500
X58	33	0	30	408.0	1.000	9.000
X59	33	0	28	312.0	0.994	8.000
X60	33	0	27	343.0	1.000	8.500
X61	33	0	28	240.0	0.803	7.500
X62	33	0	30	465.0	1.000	9.000
X63	33	0	32	528.0	1.000	9.500
X64	31	2	30	356.0	0.995	8.000
X65	33	0	32	524.5	1.000	9.500
X66	33	0	32	524.0	1.000	9.500
X67	33	0	32	523.0	1.000	9.000
X68	32	0	32	528.0	1.000	9.000
X69	33	0	31	481.5	1.000	9.000
X70	33	0	30	465.0	1.000	9.500
X71	33	0	27	351.0	1.000	9.000

Table 4.1: Descriptive Statistics X1 To X70 and Y
Activity Levels and Performance for Team Members

Variable	N	Mean	Median	Tr. Mean	St. Dev.	SE Mean
X1	147	3.0070	3.0000	3.0080	1.2740	0.1050
X2	147	4.5306	5.0000	4.6391	0.8135	0.0671
X3	147	4.3197	4.0000	4.3759	0.7674	0.0633
X4	147	4.2857	4.0000	4.3383	0.7675	0.0633
X5	147	4.2041	4.0000	4.2632	0.8019	0.0661
X6	147	4.1701	4.0000	4.2256	0.7970	0.0657
X7	147	3.9864	4.0000	4.0902	1.1225	0.0926
X8	147	4.2041	4.0000	4.2857	0.8832	0.0728
X9	147	4.5374	5.0000	4.6015	0.6112	0.0504
X10	147	4.4626	5.0000	4.5338	0.7335	0.0605
X11	147	4.4898	5.0000	4.5789	0.7618	0.0628
X12	147	4.3129	4.0000	4.3609	0.7196	0.0594
X13	147	3.8912	4.0000	3.9549	0.9076	0.0749
X14	147	4.3129	4.0000	4.3985	0.7921	0.0653
X15	147	4.4218	5.0000	4.4887	0.7578	0.0625
X16	147	4.2925	4.0000	4.3459	0.7694	0.0635
X17	147	3.7143	4.0000	3.7594	1.0791	0.0890
X18	147	4.4626	5.0000	4.5263	0.7049	0.0581
X19	147	3.7075	4.0000	3.7820	1.1055	0.0912
X20	147	4.1020	4.0000	4.1955	0.9196	0.0758
X21	147	3.6530	4.0000	3.7220	1.3580	0.1120
X22	147	2.6730	3.0000	2.6390	1.3400	0.1110
X23	147	4.2109	4.0000	4.2857	0.8212	0.0677
X24	147	4.3401	5.0000	4.4060	0.8066	0.0665
X25	147	4.3537	4.0000	4.4135	0.7291	0.0601
X26	147	4.5034	5.0000	4.6090	0.8224	0.0678
X27	147	3.0750	3.0000	3.0830	1.2770	0.1050
X28	147	4.0272	4.0000	4.0902	0.8516	0.0702
X29	147	2.6327	3.0000	2.5940	1.1825	0.0975
X30	147	3.9524	4.0000	4.0000	0.8547	0.0705
X31	147	3.6122	4.0000	3.6617	1.0628	0.0877
X32	147	4.6395	5.0000	4.7068	0.6187	0.0510
X33	147	4.4762	5.0000	4.5940	0.8939	0.0737
X34	147	4.0070	5.0000	4.1130	1.2950	0.1070
X35	147	4.2517	4.0000	4.3459	0.9278	0.0765

Continued next page

Table 4.1 Continued

Variable	N	Mean	Median	Tr. Mean	St. Dev.	SE Mean
X36	147	3.9660	4.0000	4.0376	0.9891	0.0816
X37	147	4.5782	5.0000	4.6541	0.6917	0.0570
X38	147	4.4694	5.0000	4.5564	0.7791	0.0643
X39	147	4.2993	4.0000	4.3759	0.8059	0.0665
X40	147	3.1770	3.0000	3.1950	1.2810	0.1060
X41	147	4.5170	5.0000	4.5789	0.6860	0.0566
X42	147	4.2313	4.0000	4.3008	0.8526	0.0703
X43	147	3.5650	4.0000	3.6240	1.2660	0.1040
X44	147	3.2650	4.0000	3.2930	1.6690	0.1380
X45	147	4.1429	4.0000	4.2105	0.8276	0.0683
X46	147	3.2925	3.0000	3.3233	1.1360	0.0937
X47	147	3.9660	4.0000	4.0677	1.0625	0.0876
X48	147	3.0610	3.0000	3.0680	1.3040	0.1080
X49	147	2.7070	3.0000	2.6770	1.3300	0.1100
X50	147	3.3740	3.0000	3.4140	1.4720	0.1210
X51	147	2.9930	3.0000	2.9920	1.3320	0.1100
X52	147	2.3270	2.0000	2.2560	1.3350	0.1100
X53	147	3.5990	4.0000	3.6620	1.4410	0.1190
X54	147	3.2110	3.0000	3.2330	1.2510	0.1030
X55	147	2.8503	3.0000	2.8346	1.1548	0.0952
X56	147	2.6600	3.0000	2.6240	1.5370	0.1270
X57	147	2.3610	2.0000	2.2930	1.3390	0.1100
X58	147	3.8639	4.0000	3.9248	0.9837	0.0811
X59	147	3.7143	4.0000	3.7895	1.0727	0.0885
X60	147	3.6395	4.0000	3.6992	1.0976	0.0905
X61	147	4.3129	5.0000	4.4060	0.8821	0.0728
X62	147	4.3741	5.0000	4.4286	0.7235	0.0597
X63	147	3.8160	4.0000	3.9020	1.4290	0.1180
X64	147	4.1769	4.0000	4.2406	0.8084	0.0667
X65	147	4.3878	5.0000	4.4586	0.7715	0.0636
X66	147	4.4286	5.0000	4.4812	0.7119	0.0587
X67	147	3.3060	3.0000	3.3380	1.2530	0.1030
X68	147	4.4218	5.0000	4.4887	0.7757	0.0640
X69	147	4.2517	4.0000	4.3233	0.8346	0.0688
X70	147	4.1565	4.0000	4.2707	1.0514	0.0867
Y	**147**	**3.4082**	**4.0000**	**3.4586**	**0.7096**	**0.0585**

Table 4.2: Descriptive Statistics X1a To X70a and Ya
Activity Levels and Performance for Evaluators

Variable	N	Mean	Median	Tr. Mean	St. Dev.	SE Mean
X1a	47	3.255	3.000	3.279	1.259	0.184
X2a	47	4.596	5.000	4.698	0.798	0.116
X3a	47	4.319	4.000	4.372	0.726	0.106
X4a	47	4.192	4.000	4.209	0.680	0.099
X5a	47	4.255	4.000	4.326	0.846	0.123
X6a	47	4.128	4.000	4.186	0.850	0.124
X7a	47	3.872	4.000	3.953	1.227	0.179
X8a	47	4.043	4.000	4.116	0.977	0.143
X9a	47	4.255	4.000	4.279	0.675	0.098
X10a	47	4.277	4.000	4.349	0.877	0.128
X11a	47	4.170	4.000	4.256	0.868	0.127
X12a	47	4.085	4.000	4.163	0.880	0.128
X13a	47	3.745	4.000	3.767	1.010	0.147
X14a	47	4.170	4.000	4.233	0.732	0.107
X15a	47	4.170	4.000	4.233	0.761	0.111
X16a	47	3.957	4.000	4.000	0.884	0.129
X17a	47	3.574	4.000	3.605	1.037	0.151
X18a	47	4.404	5.000	4.465	0.712	0.104
X19a	47	3.766	4.000	3.791	0.914	0.133
X20a	47	4.149	4.000	4.209	0.834	0.122
X21a	47	3.745	4.000	3.814	1.276	0.186
X22a	47	3.064	3.000	3.070	1.309	0.191
X23a	47	3.957	4.000	4.023	0.908	0.132
X24a	47	4.021	4.000	4.116	0.989	0.144
X25a	47	4.064	4.000	4.163	0.965	0.141
X26a	47	4.234	4.000	4.279	0.813	0.119
X27a	47	3.128	3.000	3.140	1.244	0.182
X28a	47	3.851	4.000	3.884	0.884	0.129
X29a	47	3.021	3.000	3.023	1.151	0.168
X30a	47	3.574	4.000	3.605	1.016	0.148
X31a	47	3.553	4.000	3.605	0.951	0.139
X32a	47	4.340	5.000	4.395	0.788	0.115
X33a	47	4.021	4.000	4.116	1.132	0.165
X34a	47	3.851	4.000	3.884	1.103	0.161
X35a	47	4.021	4.000	4.070	0.847	0.124

Continued next page

Table 4.2 Continued

Variable	N	Mean	Median	Tr. Mean	St. Dev.	SE Mean
X36a	47	4.000	4.000	4.070	0.909	0.133
X37a	47	4.319	4.000	4.372	0.755	0.110
X38a	47	4.128	4.000	4.186	0.875	0.128
X39a	47	3.979	4.000	4.023	0.821	0.120
X40a	47	3.319	3.000	3.349	1.304	0.190
X41a	47	4.319	4.000	4.395	0.810	0.118
X42a	47	4.043	4.000	4.093	0.859	0.125
X43a	47	3.553	4.000	3.605	1.230	0.179
X44a	47	3.638	4.000	3.698	1.421	0.207
X45a	47	4.191	4.000	4.233	0.770	0.112
X46a	47	3.447	3.000	3.488	1.017	0.148
X47a	47	3.915	4.000	4.000	1.080	0.158
X48a	47	3.085	3.000	3.093	1.380	0.201
X49a	47	2.787	3.000	2.767	1.350	0.197
X50a	47	3.362	3.000	3.395	1.374	0.200
X51a	47	3.128	3.000	3.140	1.279	0.187
X52a	47	2.255	2.000	2.186	1.188	0.173
X53a	47	3.362	3.000	3.395	1.466	0.214
X54a	47	3.298	3.000	3.326	1.121	0.164
X55a	47	3.021	3.000	3.023	1.310	0.191
X56a	47	2.681	3.000	2.651	1.534	0.224
X57a	47	2.596	3.000	2.558	1.378	0.201
X58a	47	3.468	4.000	3.512	1.158	0.169
X59a	47	3.681	4.000	3.744	0.980	0.143
X60a	47	3.532	4.000	3.581	1.120	0.163
X61a	47	4.319	4.000	4.372	0.783	0.114
X62a	47	4.213	4.000	4.302	0.999	0.146
X63a	47	3.851	4.000	3.930	1.285	0.187
X64a	47	4.170	4.000	4.233	0.892	0.130
X65a	47	4.319	5.000	4.419	0.887	0.129
X66a	47	4.277	5.000	4.372	0.949	0.138
X67a	47	3.468	4.000	3.512	1.100	0.161
X68a	47	4.106	4.000	4.209	1.026	0.150
X69a	47	4.149	4.000	4.186	0.780	0.114
X70a	47	4.085	4.000	4.163	1.018	0.148
Ya	**47**	**3.286**	**3.000**	**3.323**	**0.644**	**0.053**

Table 4.3 : Multiple Regression X on Ya

Predictor	Coeff.	St. Dev.	T	P
Constant	2.7134	0.5635	4.82	0.000
X1	- 0.12141	0.06330	- 1.92	0.059
X2	0.07495	0.07732	0.97	0.335
X3	0.2314	0.1026	2.26	0.027
X4	0.07806	0.08894	0.88	0.383
X5	- 0.2731	0.1159	- 2.36	0.021
X6	0.1422	0.1087	1.31	0.195
X7	0.16917	0.07243	2.34	0.022
X8	- 0.02380	0.09852	- 0.24	0.810
X9	- 0.2309	0.1065	- 2.17	0.033
X10	0.1748	0.1137	1.54	0.128
X11	0.0593	0.1096	0.54	0.590
X12	0.2391	0.1421	1.68	0.097
X13	- 0.25344	0.08068	- 3.14	0.002
X14	- 0.0638	0.1065	- 0.60	0.551
X15	0.0365	0.1220	0.30	0.765
X16	- 0.1085	0.1073	- 1.01	0.315
X17	- 0.02902	0.06498	- 0.45	0.656
X18	- 0.0916	0.1237	- 0.74	0.461
X19	0.07379	0.06687	1.10	0.273
X20	- 0.03301	0.08684	- 0.38	0.705
X21	- 0.06865	0.06032	- 1.14	0.259
X22	- 0.06643	0.05288	- 1.26	0.213
X23	- 0.2096	0.1138	- 1.84	0.070
X24	0.0831	0.1273	0.65	0.516
X25	- 0.0649	0.1321	- 0.49	0.625
X26	- 0.1719	0.1028	- 1.67	0.098
X27	0.10131	0.05440	1.86	0.066
X28	0.11250	0.09308	1.21	0.231
X29	0.00400	0.05971	0.07	0.947
X30	0.16808	0.08985	1.87	0.065
X31	- 0.03194	0.09752	- 0.33	0.744
X32	- 0.1174	0.1204	- 0.97	0.333
X33	0.31007	0.07221	4.29	0.000
X34	0.02562	0.05938	0.43	0.667
X35	- 0.05192	0.07197	- 0.72	0.473
X36	0.0245	0.1011	0.24	0.809
X37	0.1036	0.1531	0.68	0.501
X38	- 0.0049	0.1428	- 0.03	0.973

Continued next page

Table 4.3 Continued

Predictor	Coeff.	St. Dev.	T	P
X39	-0.15475	0.09831	-1.57	0.120
X40	0.01666	0.06097	0.27	0.785
X41	-0.1624	0.1448	-1.12	0.266
X42	0.04071	0.08063	0.50	0.615
X43	-0.04684	0.06482	-0.72	0.472
X44	-0.17152	0.05765	-2.98	0.004
X45	0.1908	0.1001	1.91	0.061
X46	-0.00806	0.05815	-0.14	0.890
X47	-0.01789	0.07519	-0.24	0.813
X48	-0.06402	0.05566	-1.15	0.254
X49	0.04630	0.05723	0.81	0.421
X50	0.04063	0.07341	0.55	0.582
X51	-0.01354	0.07447	-0.18	0.856
X52	-0.09587	0.05751	-1.67	0.100
X53	0.02611	0.07155	0.37	0.716
X54	0.03181	.09489	0.34	0.738
X55	-0.04366	0.08366	-0.52	0.603
X56	0.14662	0.05350	2.74	0.008
X57	0.06137	0.06064	1.01	0.315
X58	0.03588	0.09056	0.40	0.693
X59	-0.07555	0.07679	-0.98	0.328
X60	0.08686	0.06744	1.29	0.202
X61	-0.0740	0.1008	-0.73	0.466
X62	-0.13261	0.09244	-1.43	0.156
X63	0.04345	0.05387	0.81	0.422
X64	-0.0672	0.1026	-0.65	0.515
X65	-0.1532	0.1183	-1.30	0.199
X66	0.4655	0.1319	3.53	0.001
X67	0.11765	0.05539	2.12	0.037
X68	-0.2694	0.1218	-2.21	0.030
X69	0.1046	0.1381	0.76	0.451
X70	0.04147	0.08137	0.51	0.612

S = 0.4627 **R-Sq = 73.1%** **R-Sq(adj) = 48.3%**

Analysis of Variance

Source	DF	SS	MS	F	P
Regression	70	44.2284	0.6318	2.95	0.000
Residual Error	76	16.2716	0.2141		
Total	146	60.5000			

Table 4.4 : Complete Correlation Matrix X, Ya

	X1	X2	X3	X4	X5	X6	X7	X8
X2	0.334							
X3	0.348	0.396						
X4	0.355	0.348	0.483					
X5	0.367	0.368	0.650	0.661				
X6	0.451	0.473	0.526	0.413	0.535			
X7	0.388	0.180	0.275	0.156	0.171	0.424		
X8	0.388	0.306	0.317	0.227	0.318	0.515	0.618	
X9	0.154	0.111	0.361	0.196	0.320	0.317	0.220	0.354
X10	0.224	0.275	0.441	0.384	0.479	0.392	0.216	0.361
X11	0.378	0.208	0.433	0.263	0.362	0.460	0.328	0.512
X12	0.319	0.229	0.487	0.345	0.458	0.468	0.243	0.438
X13	0.119	0.107	0.158	0.183	0.238	0.196	0.355	0.344
X14	0.351	0.261	0.409	0.303	0.362	0.392	0.274	0.407
X15	0.210	0.168	0.391	0.298	0.331	0.413	0.232	0.433
X16	0.361	0.352	0.444	0.461	0.447	0.454	0.227	0.315
X17	0.251	0.072	0.219	0.141	0.195	0.280	0.178	0.313
X18	0.294	0.453	0.472	0.387	0.413	0.578	0.311	0.364
X19	0.245	0.296	0.232	0.244	0.276	0.337	0.339	0.300
X20	0.374	0.312	0.381	0.405	0.455	0.499	0.307	0.328
X21	0.453	0.205	0.291	0.253	0.279	0.371	0.532	0.568
X22	0.310	0.166	0.195	0.125	0.120	0.238	0.147	0.178
X23	0.365	0.129	0.414	0.251	0.319	0.353	0.323	0.497
X24	0.344	0.224	0.520	0.406	0.443	0.368	0.240	0.392
X25	0.366	0.201	0.494	0.381	0.438	0.367	0.257	0.345
X26	0.232	0.182	0.470	0.248	0.321	0.276	0.267	0.405
X27	0.374	0.219	0.276	0.209	0.333	0.156	0.173	0.205
X28	0.366	0.226	0.406	0.313	0.383	0.387	0.215	0.402
X29	0.334	0.019	0.153	0.041	0.123	0.139	0.275	0.230
X30	0.478	0.214	0.410	0.365	0.364	0.304	0.199	0.321
X31	0.508	0.287	0.556	0.557	0.624	0.467	0.271	0.472
X32	0.229	0.179	0.432	0.449	0.453	0.347	0.180	0.311
X33	0.184	0.281	0.206	0.200	0.246	0.241	0.314	0.284
X34	0.320	0.250	0.198	0.039	0.104	0.271	0.325	0.310
X35	0.329	0.267	0.329	0.312	0.345	0.331	0.141	0.238
X36	0.468	0.338	0.457	0.590	0.657	0.390	0.129	0.314
X37	0.369	0.218	0.449	0.319	0.416	0.454	0.337	0.433
X38	0.259	0.199	0.492	0.324	0.416	0.433	0.289	0.447
X39	0.271	0.216	0.354	0.315	0.361	0.357	0.300	0.433
X40	0.440	0.192	0.179	0.143	0.191	0.279	0.407	0.434
X41	0.262	0.241	0.478	0.355	0.392	0.439	0.303	0.379

Continued next page

Table 4.4 Continued

	X1	X2	X3	X4	X5	X6	X7	X8
X42	0.263	0.217	0.211	0.202	0.181	0.234	0.275	0.201
X43	0.308	0.146	0.194	0.094	0.189	0.318	0.396	0.349
X44	0.192	0.002	0.030	-0.081	-0.046	0.141	0.265	0.288
X45	0.239	0.192	0.251	0.270	0.286	0.295	0.201	0.316
X46	0.226	-0.006	0.183	0.147	0.122	0.111	-0.104	0.029
X47	0.410	0.195	0.517	0.373	0.442	0.500	0.344	0.402
X48	0.329	0.195	0.247	0.229	0.191	0.253	0.375	0.399
X49	0.425	0.182	0.253	0.190	0.191	0.364	0.415	0.430
X50	0.075	0.199	0.239	0.335	0.353	0.097	-0.121	0.062
X51	0.044	0.073	0.257	0.250	0.354	0.053	-0.215	-0.045
X52	0.208	0.035	0.138	0.162	0.219	-0.014	0.008	0.071
X53	-0.051	0.066	0.148	0.197	0.285	0.006	-0.249	-0.161
X54	0.029	0.071	0.193	0.301	0.360	0.053	-0.261	-0.107
X55	0.061	0.165	0.224	0.319	0.344	0.072	-0.033	0.050
X56	0.347	0.080	0.157	0.048	0.157	0.310	0.362	0.349
X57	0.332	-0.095	0.134	0.059	0.135	0.103	0.140	0.233
X58	0.367	0.142	0.285	0.270	0.287	0.248	0.253	0.379
X59	0.392	0.175	0.170	0.108	0.188	0.105	0.241	0.257
X60	0.433	0.277	0.284	0.237	0.349	0.352	0.374	0.373
X61	0.321	0.321	0.327	0.251	0.180	0.362	0.309	0.392
X62	0.168	0.196	0.326	0.226	0.186	0.174	0.065	0.062
X63	0.313	0.149	0.104	-0.046	0.015	0.118	0.332	0.296
X64	0.252	0.200	0.350	0.205	0.303	0.357	0.320	0.390
X65	0.325	0.314	0.495	0.483	0.491	0.494	0.220	0.356
X66	0.299	0.267	0.487	0.351	0.386	0.402	0.324	0.492
X67	0.278	0.041	0.197	0.115	0.244	0.133	-0.016	0.185
X68	0.274	0.164	0.497	0.302	0.356	0.326	0.282	0.353
X69	0.404	0.155	0.419	0.347	0.363	0.316	0.230	0.367
X70	0.418	0.319	0.379	0.199	0.238	0.270	0.425	0.401
Ya	**0.148**	**0.277**	**0.209**	**0.104**	**0.118**	**0.258**	**0.233**	**0.174**

Continued next page

Table 4.4 Continued

	X9	X10	X11	X12	X13	X14	X15	X16
X10	0.496							
X11	0.534	0.658						
X12	0.472	0.671	0.706					
X13	0.242	0.313	0.315	0.336				
X14	0.386	0.586	0.664	0.680	0.457			
X15	0.483	0.583	0.672	0.661	0.236	0.589		
X16	0.348	0.548	0.467	0.489	0.124	0.444	0.551	
X17	0.203	0.367	0.405	0.354	0.206	0.266	0.291	0.266
X18	0.421	0.484	0.545	0.523	0.283	0.463	0.555	0.557
X19	0.102	0.261	0.293	0.279	0.139	0.301	0.238	0.311
X20	0.194	0.407	0.358	0.407	0.178	0.351	0.360	0.509
X21	0.119	0.169	0.258	0.238	0.169	0.191	0.243	0.229
X22	-0.002	0.148	0.164	0.178	0.094	0.213	0.110	0.113
X23	0.482	0.531	0.622	0.606	0.316	0.614	0.560	0.455
X24	0.419	0.519	0.541	0.618	0.285	0.540	0.638	0.501
X25	0.308	0.524	0.549	0.610	0.255	0.542	0.559	0.486
X26	0.330	0.452	0.500	0.426	0.138	0.398	0.547	0.426
X27	0.018	0.255	0.159	0.265	0.285	0.220	0.144	0.159
X28	0.406	0.506	0.518	0.511	0.225	0.495	0.491	0.458
X29	0.000	0.150	0.148	0.160	0.243	0.241	0.075	0.164
X30	0.207	0.429	0.446	0.514	0.267	0.488	0.401	0.500
X31	0.312	0.574	0.524	0.563	0.261	0.511	0.426	0.466
X32	0.299	0.445	0.493	0.394	0.100	0.399	0.502	0.425
X33	0.143	0.195	0.249	0.193	0.343	0.243	0.207	0.244
X34	0.134	0.112	0.295	0.240	0.059	0.292	0.262	0.239
X35	0.195	0.301	0.338	0.322	0.106	0.311	0.179	0.290
X36	0.178	0.475	0.413	0.467	0.156	0.355	0.293	0.400
X37	0.572	0.509	0.616	0.583	0.265	0.543	0.603	0.452
X38	0.473	0.492	0.602	0.677	0.305	0.482	0.637	0.512
X39	0.325	0.494	0.507	0.463	0.335	0.485	0.454	0.499
X40	0.132	0.160	0.198	0.192	0.158	0.121	0.134	0.072
X41	0.411	0.433	0.508	0.489	0.201	0.482	0.553	0.555
X42	0.128	0.288	0.267	0.261	0.157	0.277	0.166	0.293
X43	0.057	0.204	0.265	0.248	0.072	0.164	0.114	0.216
X44	0.014	0.011	0.129	0.164	-0.040	0.087	0.106	0.040
X45	0.199	0.285	0.279	0.350	0.030	0.266	0.329	0.310
X46	-0.031	0.083	0.071	0.055	0.111	0.118	-0.025	0.027
X47	0.229	0.354	0.418	0.408	0.103	0.379	0.426	0.406

Continued next page

Table 4.4 Continued

	X9	X10	X11	X12	X13	X14	X15	X16
X48	-0.007	0.142	0.211	0.257	0.092	0.167	0.175	0.214
X49	-0.016	0.090	0.203	0.175	0.240	0.224	0.144	0.131
X50	0.194	0.238	0.135	0.076	0.031	0.140	0.091	0.199
X51	0.139	0.214	0.071	0.067	-0.035	0.119	0.111	0.236
X52	0.027	0.069	-0.003	-0.007	0.103	0.013	-0.049	0.020
X53	0.107	0.196	-0.001	0.010	-0.023	0.063	0.012	0.187
X54	0.146	0.221	0.071	0.056	-0.028	0.147	0.086	0.241
X55	0.173	0.228	0.061	0.048	0.141	0.134	0.088	0.312
X56	0.057	0.104	0.178	0.190	0.057	0.094	0.195	0.044
X57	0.038	0.059	0.121	0.067	0.094	0.067	0.011	0.063
X58	0.248	0.354	0.400	0.399	0.259	0.371	0.326	0.352
X59	0.037	0.247	0.256	0.196	0.073	0.227	0.208	0.152
X60	0.127	0.209	0.270	0.257	0.339	0.312	0.209	0.304
X61	0.245	0.336	0.463	0.395	0.154	0.398	0.354	0.288
X62	0.162	0.356	0.274	0.326	0.073	0.248	0.260	0.343
X63	-0.059	0.010	0.127	0.123	-0.058	0.093	0.135	0.074
X64	0.361	0.473	0.537	0.528	0.194	0.416	0.537	0.445
X65	0.383	0.649	0.537	0.619	0.227	0.540	0.515	0.569
X66	0.380	0.536	0.557	0.565	0.253	0.501	0.627	0.545
X67	0.133	0.121	0.150	0.189	0.114	0.179	0.051	0.034
X68	0.472	0.473	0.540	0.572	0.309	0.519	0.592	0.446
X69	0.270	0.513	0.494	0.484	0.217	0.502	0.535	0.589
X70	0.199	0.323	0.383	0.315	0.205	0.377	0.312	0.349
Ya	**-0.132**	**0.103**	**0.055**	**0.131**	**-0.052**	**0.025**	**0.088**	**0.051**

Continued next page

Table 4.4 Continued

	X17	X18	X19	X20	X21	X22	X23	X24
X18	0.400							
X19	0.148	0.236						
X20	0.430	0.508	0.346					
X21	0.268	0.219	0.137	0.407				
X22	0.428	0.117	0.263	0.183	0.291			
X23	0.347	0.386	0.234	0.343	0.355	0.243		
X24	0.372	0.553	0.258	0.313	0.252	0.268	0.584	
X25	0.391	0.506	0.206	0.385	0.312	0.238	0.584	0.772
X26	0.348	0.399	0.291	0.412	0.286	0.113	0.460	0.566
X27	0.135	0.136	0.253	0.168	0.311	0.282	0.305	0.241
X28	0.262	0.390	0.343	0.346	0.275	0.260	0.599	0.505
X29	0.250	0.098	0.069	0.261	0.236	0.373	0.369	0.182
X30	0.379	0.469	0.137	0.416	0.316	0.237	0.483	0.510
X31	0.339	0.406	0.212	0.489	0.381	0.271	0.495	0.490
X32	0.245	0.385	0.235	0.270	0.119	0.105	0.434	0.536
X33	0.107	0.333	0.218	0.157	0.154	0.136	0.254	0.230
X34	0.193	0.252	0.351	0.086	0.200	0.246	0.359	0.260
X35	0.195	0.344	0.126	0.178	0.195	0.188	0.334	0.306
X36	0.318	0.327	0.223	0.418	0.323	0.302	0.312	0.384
X37	0.232	0.445	0.321	0.337	0.222	0.102	0.664	0.529
X38	0.258	0.438	0.328	0.363	0.220	0.076	0.604	0.616
X39	0.288	0.454	0.299	0.439	0.315	0.123	0.515	0.453
X40	0.349	0.091	0.187	0.188	0.469	0.477	0.290	0.260
X41	0.349	0.564	0.210	0.426	0.282	0.073	0.535	0.707
X42	0.177	0.322	0.327	0.319	0.164	0.246	0.331	0.333
X43	0.214	0.158	0.241	0.280	0.465	0.267	0.267	0.119
X44	0.195	0.093	0.098	0.103	0.410	0.223	0.224	0.039
X45	0.376	0.356	0.233	0.314	0.367	0.363	0.429	0.419
X46	0.253	0.052	0.096	0.233	0.128	0.270	0.154	0.130
X47	0.278	0.442	0.254	0.375	0.315	0.213	0.283	0.389
X48	0.324	0.207	0.278	0.292	0.565	0.333	0.205	0.208
X49	0.194	0.131	0.286	0.170	0.440	0.395	0.270	0.125

Continued next page

Table 4.4 Continued

	X17	X18	X19	X20	X21	X22	X23	X24
X50	-0.010	0.116	0.139	0.073	-0.126	0.003	0.127	0.152
X51	0.142	0.091	0.194	0.157	-0.141	0.156	0.133	0.162
X52	0.198	-0.074	0.084	0.034	0.165	0.270	0.080	0.074
X53	0.071	-0.025	0.089	0.134	-0.271	0.063	0.113	0.053
X54	-0.001	0.028	0.124	0.148	-0.190	0.062	0.103	0.098
X55	0.097	0.119	0.153	0.156	-0.033	0.070	0.127	0.136
X56	0.354	0.178	0.255	0.209	0.517	0.298	0.220	0.116
X57	0.280	-0.033	0.127	0.159	0.220	0.306	0.260	0.070
X58	0.350	0.269	0.284	0.311	0.375	0.148	0.485	0.395
X59	0.355	0.104	0.316	0.301	0.388	0.411	0.372	0.224
X60	0.306	0.244	0.212	0.247	0.380	0.357	0.374	0.341
X61	0.138	0.349	0.544	0.205	0.234	0.214	0.400	0.331
X62	0.199	0.276	0.172	0.128	-0.006	0.127	0.224	0.379
X63	0.130	0.092	0.222	0.072	0.288	0.154	0.162	0.108
X64	0.137	0.336	0.434	0.243	0.181	0.079	0.552	0.422
X65	0.315	0.461	0.303	0.398	0.214	0.209	0.486	0.480
X66	0.437	0.544	0.274	0.414	0.403	0.241	0.629	0.651
X67	0.237	-0.022	0.115	0.139	0.192	0.394	0.236	0.100
X68	0.358	0.493	0.273	0.371	0.263	0.173	0.569	0.689
X69	0.339	0.360	0.244	0.413	0.343	0.227	0.592	0.635
X70	0.166	0.355	0.405	0.245	0.321	0.173	0.461	0.413
Ya	**0.025**	**0.114**	**0.277**	**0.037**	**0.075**	**0.180**	**0.054**	**0.069**

	X25	X26	X27	X28	X29	X30	X31	X32
X26	0.581							
X27	0.251	0.153						
X28	0.558	0.420	0.344					
X29	0.303	0.163	0.358	0.282				
X30	0.566	0.375	0.373	0.548	0.396			
X31	0.514	0.335	0.380	0.436	0.256	0.575		
X32	0.497	0.386	0.182	0.370	0.183	0.356	0.526	
X33	0.255	0.165	0.047	0.118	0.115	0.111	0.210	0.251
X34	0.251	0.299	0.070	0.223	0.087	0.118	0.126	0.148

Continued next page

Table 4.4 Continued

	X25	X26	X27	X28	X29	X30	X31	X32
X35	0.353	0.291	0.204	0.321	0.210	0.326	0.433	0.231
X36	0.454	0.198	0.382	0.375	0.165	0.419	0.782	0.461
X37	0.502	0.532	0.168	0.485	0.161	0.325	0.400	0.474
X38	0.514	0.505	0.219	0.414	0.144	0.394	0.436	0.524
X39	0.518	0.494	0.164	0.517	0.195	0.448	0.440	0.355
X40	0.270	0.175	0.323	0.215	0.391	0.152	0.272	0.185
X41	0.659	0.531	0.206	0.445	0.126	0.451	0.408	0.571
X42	0.374	0.321	-0.010	0.218	0.092	0.307	0.243	0.263
X43	0.242	0.264	0.152	0.163	0.258	0.253	0.199	0.130
X44	0.136	0.162	0.180	0.019	0.195	0.119	0.004	0.020
X45	0.347	0.326	0.223	0.354	0.236	0.281	0.297	0.409
X46	0.213	0.245	0.230	0.169	0.361	0.226	0.185	0.083
X47	0.422	0.357	0.290	0.463	0.219	0.375	0.528	0.419
X48	0.287	0.169	0.281	0.220	0.197	0.316	0.299	0.180
X49	0.178	0.142	0.343	0.225	0.471	0.283	0.307	0.229
X50	0.118	0.149	0.091	0.276	-0.062	0.150	0.374	0.202
X51	0.073	0.166	0.105	0.242	0.094	0.120	0.211	0.163
X52	0.078	0.036	0.243	0.131	0.228	0.236	0.235	0.077
X53	0.025	0.056	-0.002	0.154	0.062	0.112	0.238	0.159
X54	0.090	0.083	0.093	0.226	0.030	0.202	0.340	0.223
X55	0.104	0.181	0.022	0.213	0.065	0.138	0.254	0.144
X56	0.188	0.163	0.257	0.185	0.213	0.118	0.154	0.129
X57	0.191	0.114	0.256	0.177	0.512	0.278	0.243	0.100
X58	0.516	0.407	0.281	0.454	0.216	0.424	0.460	0.290
X59	0.261	0.257	0.401	0.233	0.327	0.254	0.317	0.195
X60	0.383	0.180	0.342	0.252	0.404	0.361	0.449	0.301
X61	0.338	0.263	0.240	0.426	0.072	0.247	0.335	0.321
X62	0.384	0.268	0.229	0.317	0.058	0.306	0.217	0.411
X63	0.135	0.085	0.158	0.066	0.094	0.111	0.084	0.056
X64	0.439	0.422	0.226	0.500	0.147	0.349	0.320	0.334
X65	0.485	0.414	0.367	0.578	0.157	0.527	0.569	0.510
X66	0.669	0.541	0.251	0.489	0.131	0.450	0.520	0.478
X67	0.091	0.102	0.131	0.127	0.238	0.167	0.234	0.135
X68	0.606	0.610	0.231	0.491	0.192	0.433	0.391	0.405
X69	0.674	0.553	0.342	0.559	0.247	0.545	0.536	0.575
X70	0.392	0.399	0.394	0.393	0.168	0.321	0.318	0.287
Ya	**0.075**	**-0.086**	**0.145**	**0.123**	**0.058**	**0.056**	**0.183**	**0.140**

Continued next page

Table 4.4 Continued

	X33	X34	X35	X36	X37	X38	X39	X40
X34	0.352							
X35	0.135	0.352						
X36	0.189	0.096	0.383					
X37	0.360	0.355	0.316	0.309				
X38	0.237	0.295	0.300	0.341	0.751			
X39	0.267	0.221	0.302	0.314	0.486	0.538		
X40	0.315	0.284	0.251	0.264	0.209	0.184	0.147	
X41	0.288	0.258	0.225	0.349	0.564	0.658	0.499	0.176
X42	0.304	0.333	0.229	0.188	0.283	0.248	0.457	0.119
X43	0.239	0.231	0.094	0.141	0.250	0.264	0.357	0.466
X44	0.007	0.173	-0.012	-0.069	0.169	0.125	0.063	0.436
X45	0.204	0.280	0.265	0.274	0.345	0.363	0.305	0.435
X46	-0.084	0.068	0.209	0.186	0.071	0.076	0.181	0.167
X47	0.111	0.174	0.231	0.436	0.241	0.259	0.332	0.221
X48	0.180	0.194	0.174	0.288	0.135	0.174	0.256	0.461
X49	0.204	0.216	0.265	0.273	0.222	0.186	0.197	0.521
X50	0.067	0.053	0.302	0.409	0.109	0.061	0.101	-0.184
X51	-0.043	0.064	0.179	0.270	0.094	0.096	0.085	-0.124
X52	-0.091	-0.021	0.121	0.211	0.054	0.010	-0.123	0.198
X53	-0.021	-0.046	0.076	0.211	0.001	0.023	0.033	-0.191
X54	-0.023	-0.077	0.149	0.388	0.104	0.073	0.073	-0.173
X55	0.176	0.147	0.106	0.265	0.058	0.094	0.071	-0.014
X56	0.059	0.256	0.099	0.159	0.206	0.140	0.127	0.476
X57	0.062	0.022	0.092	0.180	0.195	0.119	0.128	0.402
X58	0.136	0.178	0.263	0.326	0.398	0.370	0.432	0.242
X59	0.071	0.356	0.307	0.339	0.261	0.235	0.282	0.501
X60	0.169	0.247	0.339	0.418	0.313	0.319	0.278	0.431
X61	0.218	0.448	0.288	0.318	0.498	0.463	0.407	0.145
X62	0.136	0.122	0.175	0.219	0.276	0.355	0.300	0.046
X63	0.144	0.511	0.082	0.063	0.115	0.146	0.203	0.310
X64	0.233	0.391	0.205	0.205	0.514	0.596	0.507	0.135
X65	0.207	0.121	0.322	0.520	0.450	0.504	0.473	0.200
X66	0.291	0.309	0.344	0.410	0.509	0.635	0.599	0.307
X67	-0.039	0.075	-0.043	0.207	0.197	0.196	0.166	0.282
X68	0.222	0.270	0.289	0.233	0.615	0.713	0.553	0.193
X69	0.215	0.258	0.254	0.459	0.506	0.607	0.457	0.259
X70	0.190	0.532	0.331	0.275	0.487	0.420	0.405	0.244
Ya	**0.381**	**0.248**	**0.062**	**0.241**	**0.080**	**0.059**	**-0.027**	**0.233**

Continued next page

Table 4.4 Continued

	X41	X42	X43	X44	X45	X46	X47	X48
X42	0.321							
X43	0.221	0.278						
X44	0.143	0.111	0.625					
X45	0.484	0.302	0.413	0.399				
X46	0.077	0.128	0.170	0.154	0.225			
X47	0.381	0.107	0.187	0.098	0.340	0.213		
X48	0.255	0.215	0.526	0.471	0.392	0.173	0.318	
X49	0.137	0.169	0.412	0.365	0.331	0.275	0.216	0.539
X50	0.045	0.056	-0.305	-0.503	-0.117	0.032	0.183	-0.212
X51	0.094	-0.005	-0.107	-0.277	0.131	0.133	0.193	-0.142
X52	0.031	-0.019	0.064	0.072	0.075	0.280	-0.002	0.209
X53	-0.045	-0.024	-0.213	-0.425	-0.038	0.097	0.130	-0.256
X54	0.072	0.044	-0.179	-0.365	-0.003	0.159	0.191	-0.188
X55	0.124	0.175	-0.040	-0.224	0.080	0.091	0.141	-0.048
X56	0.194	0.050	0.472	0.636	0.340	0.112	0.244	0.458
X57	0.109	0.094	0.420	0.466	0.176	0.443	0.158	0.375
X58	0.440	0.242	0.200	0.164	0.377	0.097	0.349	0.402
X59	0.202	0.170	0.402	0.353	0.494	0.221	0.280	0.463
X60	0.322	0.280	0.285	0.266	0.411	0.195	0.177	0.403
X61	0.376	0.286	0.086	0.073	0.332	0.079	0.267	0.221
X62	0.408	0.292	0.052	-0.088	0.139	0.083	0.177	0.186
X63	0.139	0.159	0.323	0.443	0.208	-0.047	0.176	0.421
X64	0.476	0.228	0.323	0.193	0.351	0.010	0.334	0.204
X65	0.486	0.248	0.202	-0.006	0.331	0.081	0.492	0.283
X66	0.665	0.321	0.246	0.192	0.430	0.098	0.373	0.348
X67	0.078	0.113	0.339	0.328	0.202	0.273	0.070	0.190
X68	0.656	0.286	0.202	0.140	0.407	0.170	0.333	0.218
X69	0.716	0.303	0.228	0.188	0.463	0.225	0.373	0.288
X70	0.419	0.288	0.149	0.199	0.305	0.111	0.348	0.253
Ya	**0.043**	**0.091**	**0.040**	**-0.036**	**0.148**	**-0.124**	**0.144**	**0.105**

Continued next page

Table 4.4 Continued

	X49	X50	X51	X52	X53	X54	X55	X56
X50	-0.126							
X51	-0.078	0.662						
X52	0.297	0.265	0.413					
X53	-0.176	0.710	0.734	0.332				
X54	-0.107	0.771	0.770	0.430	0.811			
X55	-0.024	0.625	0.707	0.401	0.680	0.681		
X56	0.473	-0.388	-0.162	0.125	-0.359	-0.322	-0.156	
X57	0.436	-0.083	0.021	0.355	-0.003	0.057	0.079	0.443
X58	0.242	0.068	0.041	0.253	0.024	0.051	0.036	0.282
X59	0.392	-0.049	0.138	0.233	0.018	0.045	0.059	0.439
X60	0.532	-0.009	-0.025	0.268	-0.057	-0.029	0.135	0.321
X61	0.306	0.199	0.095	0.041	0.029	0.095	0.073	0.205
X62	0.065	0.189	0.060	0.107	0.073	0.117	0.084	-0.008
X63	0.281	-0.179	-0.101	-0.008	-0.199	-0.197	-0.108	0.430
X64	0.233	0.111	0.116	-0.035	0.055	0.085	0.073	0.170
X65	0.225	0.209	0.189	0.056	0.190	0.234	0.235	0.147
X66	0.249	0.062	0.046	0.003	-0.011	0.021	0.070	0.253
X67	0.305	0.015	0.206	0.386	0.110	0.186	0.155	0.339
X68	0.167	0.053	0.082	0.098	0.012	0.063	0.071	0.190
X69	0.246	0.062	0.082	0.159	0.050	0.152	0.160	0.233
X70	0.234	0.099	0.055	0.032	-0.053	-0.004	0.076	0.270
Ya	**0.262**	**0.042**	**-0.054**	**-0.125**	**-0.034**	**-0.046**	**-0.020**	**0.234**

	X57	X58	X59	X60	X61	X62	X63	X64
X58	0.323							
X59	0.358	0.417						
X60	0.355	0.398	0.499					
X61	0.066	0.468	0.341	0.330				
X62	0.051	0.274	0.130	0.154	0.395			
X63	0.167	0.260	0.453	0.250	0.323	0.107		
X64	0.162	0.487	0.304	0.227	0.537	0.331	0.426	
X65	0.102	0.494	0.209	0.296	0.404	0.425	0.084	0.460
X66	0.095	0.524	0.341	0.383	0.428	0.391	0.280	0.546
X67	0.505	0.234	0.285	0.230	0.105	0.137	0.143	0.136
X68	0.156	0.507	0.294	0.268	0.446	0.449	0.126	0.514

Continued next page

Table 4.4 Continued

X69	0.225	0.501	0.333	0.391	0.385	0.444	0.142	0.451
X70	0.101	0.372	0.508	0.417	0.634	0.337	0.507	0.467
Ya	**0.035**	**0.024**	**0.084**	**0.171**	**0.240**	**0.026**	**0.244**	**0.139**

	X65	X66	X67	X68	X69	X70
X66	0.593					
X67	0.082	0.075				
X68	0.457	0.712	0.183			
X69	0.603	0.705	0.142	0.671		
X70	0.372	0.468	0.067	0.456	0.493	
Ya	**0.162**	**0.187**	**-0.012**	**-0.065**	**0.069**	**0.176**

Table 4.5: Correlation Measures between X and Ya

X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14
0.15	0.28	0.21	0.10	0.12	0.26	0.23	0.17	-0.13	0.10	0.05	0.13	-0.05	0.02
X15	X16	X17	X18	X19	X20	X21	X22	X23	X24	X25	X26	X27	X28
0.09	0.05	0.02	0.11	0.28	0.04	0.07	0.18	0.05	0.07	0.08	-0.09	0.14	0.12
X29	X30	X31	X32	X33	X34	X35	X36	X37	X38	X39	X40	X41	X42
0.06	0.06	0.18	0.14	0.38	0.25	0.06	0.24	0.08	0.06	-0.03	0.23	0.04	0.09
X43	X44	X45	X46	X47	X48	X49	X50	X51	X52	X53	X54	X55	X56
0.04	-0.04	0.15	-0.12	0.14	0.11	0.26	0.04	-0.05	-0.13	-0.03	-0.05	-0.02	0.23
X57	X58	X59	X60	X61	X62	X63	X64	X65	X66	X67	X68	X69	X70
0.03	0.02	0.08	0.17	0.24	0.03	0.24	0.14	0.16	0.19	-0.01	-0.06	0.07	0.18

Table 4.6 : Complete Correlation Matrix Xa, Ya

	X1a	X2a	X3a	X4a	X5a	X6a	X7a	X8a
X2a	0.343							
X3a	0.409	0.228						
X4a	0.196	0.106	0.446					
X5a	0.305	0.060	0.643	0.593				
X6a	0.192	0.366	0.250	0.220	0.468			
X7a	0.317	0.390	0.340	0.134	0.346	0.600		
X8a	0.238	0.385	0.348	0.282	0.381	0.648	0.639	
X9a	0.024	0.357	0.407	0.365	0.416	0.321	0.172	0.445
X10a	0.210	0.411	0.405	0.565	0.459	0.389	0.276	0.341
X11a	0.238	0.447	0.464	0.533	0.472	0.441	0.348	0.478
X12a	0.313	0.421	0.569	0.626	0.554	0.450	0.232	0.451
X13a	0.155	0.301	0.173	0.484	0.281	0.165	0.149	0.430
X14a	0.306	0.492	0.428	0.457	0.420	0.419	0.339	0.446
X15a	0.203	0.474	0.372	0.440	0.302	0.537	0.443	0.516
X16a	0.323	0.160	0.496	0.339	0.422	0.413	0.356	0.430
X17a	0.235	-0.002	0.184	0.272	0.473	0.186	0.196	0.126
X18a	0.173	0.408	0.418	0.375	0.402	0.595	0.658	0.506
X19a	0.431	0.344	0.410	0.388	0.388	0.347	0.322	0.279
X20a	0.419	0.256	0.387	0.370	0.376	0.433	0.274	0.392
X21a	0.325	0.259	0.019	-0.018	0.182	0.311	0.340	0.358
X22a	0.095	0.088	0.253	0.352	0.319	0.266	0.303	0.151
X23a	0.181	0.276	0.450	0.506	0.496	0.571	0.542	0.615
X24a	0.048	0.342	0.505	0.543	0.539	0.540	0.504	0.562
X25a	0.183	0.486	0.560	0.445	0.565	0.626	0.558	0.574
X26a	0.131	0.417	0.423	0.153	0.290	0.176	0.510	0.425
X27a	0.437	0.425	0.411	0.330	0.340	0.251	0.324	0.264
X28a	0.328	0.282	0.550	0.482	0.575	0.402	0.483	0.511
X29a	0.341	0.175	0.408	0.439	0.374	0.286	0.356	0.366
X30a	0.087	0.159	0.483	0.467	0.534	0.517	0.339	0.522
X31a	0.424	0.358	0.652	0.606	0.577	0.341	0.267	0.325
X32a	0.108	0.362	0.452	0.525	0.486	0.550	0.518	0.461
X33a	0.164	0.346	0.388	0.305	0.198	0.291	0.299	0.314
X34a	0.231	0.251	0.495	0.068	0.275	0.183	0.162	0.309
X35a	0.341	0.367	0.696	0.521	0.478	0.328	0.275	0.314

Continued next page

Table 4.6 Continued

	X1a	X2a	X3a	X4a	X5a	X6a	X7a	X8a
X36a	0.418	0.240	0.626	0.457	0.565	0.338	0.214	0.294
X37a	0.324	0.507	0.366	0.259	0.414	0.409	0.491	0.394
X38a	0.246	0.355	0.448	0.433	0.513	0.504	0.400	0.527
X39a	0.237	0.385	0.559	0.319	0.572	0.471	0.408	0.462
X40a	0.307	-0.061	0.143	0.126	0.437	0.276	0.257	0.194
X41a	0.089	0.439	0.415	0.439	0.544	0.602	0.523	0.532
X42a	0.211	0.216	0.362	0.284	0.284	0.201	0.335	0.386
X43a	0.314	0.166	0.090	0.027	0.279	0.347	0.350	0.324
X44a	0.271	0.117	-0.033	-0.039	0.097	0.075	0.260	0.184
X45a	0.218	0.341	0.238	0.302	0.424	0.394	0.372	0.422
X46a	0.147	0.067	0.185	0.219	0.370	0.184	0.151	0.177
X47a	0.320	0.438	0.618	0.289	0.500	0.320	0.303	0.313
X48a	0.325	0.032	0.320	0.144	0.372	0.176	0.289	0.336
X49a	0.339	-0.021	0.137	0.069	0.277	0.233	0.416	0.320
X50a	0.209	0.315	0.558	0.529	0.368	0.183	0.118	0.183
X51a	0.222	0.116	0.471	0.396	0.371	0.285	0.149	0.239
X52a	0.348	0.111	0.156	0.153	0.323	0.247	0.276	0.328
X53a	0.279	0.351	0.461	0.409	0.345	0.241	0.123	0.171
X54a	0.222	0.405	0.281	0.522	0.262	0.324	0.170	0.306
X55a	0.366	0.092	0.381	0.532	0.505	0.388	0.096	0.237
X56a	0.257	0.052	-0.043	-0.024	0.031	0.215	0.267	0.140
X57a	0.462	0.026	0.241	0.340	0.221	0.323	0.226	0.288
X58a	0.036	-0.003	0.336	0.353	0.408	0.335	0.272	0.539
X59a	0.244	0.137	0.330	0.257	0.336	0.311	0.237	0.332
X60a	0.179	0.076	0.322	0.149	0.358	0.315	0.240	0.336
X61a	0.268	0.211	0.506	0.128	0.334	0.231	0.134	0.266
X62a	0.319	0.465	0.474	0.131	0.397	0.403	0.360	0.369
X63a	0.024	0.258	0.309	-0.166	0.056	0.058	0.126	0.265
X64a	0.212	0.404	0.485	0.267	0.402	0.429	0.298	0.415
X65a	0.373	0.616	0.480	0.437	0.497	0.550	0.597	0.586
X66a	0.322	0.495	0.469	0.489	0.560	0.656	0.591	0.691
X67a	0.226	0.121	0.353	0.313	0.336	0.121	0.045	0.203
X68a	0.315	0.452	0.566	0.531	0.544	0.582	0.529	0.581
X69a	0.182	0.343	0.568	0.478	0.468	0.364	0.384	0.391
X70a	0.407	0.391	0.375	0.133	0.277	0.389	0.479	0.477
Ya	**0.205**	**0.195**	**0.469**	**0.261**	**0.385**	**0.231**	**0.360**	**0.331**

Continued next page

Table 4.6 Continued

	X9a	X10a	X11a	X12a	X13a	X14a	X15a	X16a
X10a	0.576							
X11a	0.630	0.822						
X12a	0.585	0.785	0.863					
X13a	0.512	0.572	0.571	0.563				
X14a	0.615	0.670	0.672	0.652	0.589			
X15a	0.379	0.351	0.416	0.465	0.199	0.454		
X16a	0.420	0.464	0.605	0.536	0.255	0.482	0.367	
X17a	0.314	0.323	0.372	0.421	0.288	0.269	-0.016	0.170
X18a	0.324	0.374	0.484	0.499	0.268	0.407	0.472	0.546
X19a	0.275	0.408	0.435	0.539	0.287	0.386	0.277	0.418
X20a	0.318	0.388	0.445	0.516	0.149	0.385	0.405	0.245
X21a	0.330	0.336	0.276	0.252	0.404	0.280	0.068	0.183
X22a	0.252	0.439	0.392	0.429	0.243	0.306	0.033	0.284
X23a	0.480	0.588	0.644	0.685	0.438	0.567	0.388	0.513
X24a	0.578	0.695	0.730	0.747	0.441	0.626	0.544	0.548
X25a	0.576	0.698	0.766	0.761	0.374	0.631	0.518	0.539
X26a	0.404	0.395	0.528	0.488	0.233	0.370	0.285	0.377
X27a	0.452	0.584	0.624	0.565	0.424	0.596	0.298	0.400
X28a	0.466	0.643	0.657	0.603	0.370	0.578	0.426	0.493
X29a	0.329	0.618	0.519	0.491	0.416	0.434	0.244	0.386
X30a	0.543	0.623	0.626	0.600	0.400	0.597	0.321	0.536
X31a	0.419	0.542	0.595	0.566	0.286	0.486	0.438	0.391
X32a	0.324	0.553	0.518	0.490	0.275	0.538	0.590	0.365
X33a	0.391	0.541	0.527	0.412	0.290	0.520	0.198	0.392
X34a	0.403	0.291	0.527	0.439	0.160	0.436	0.160	0.573
X35a	0.409	0.577	0.675	0.639	0.311	0.590	0.332	0.524
X36a	0.461	0.627	0.606	0.598	0.308	0.654	0.283	0.433
X37a	0.648	0.684	0.679	0.547	0.337	0.726	0.395	0.444
X38a	0.606	0.604	0.658	0.634	0.456	0.678	0.587	0.485
X39a	0.560	0.642	0.646	0.604	0.387	0.730	0.389	0.478
X40a	0.227	0.244	0.239	0.222	0.294	0.238	-0.034	0.295
X41a	0.563	0.607	0.663	0.662	0.288	0.639	0.474	0.353
X42a	0.394	0.388	0.486	0.455	0.314	0.438	0.288	0.260
X43a	0.376	0.339	0.256	0.217	0.274	0.352	0.083	0.282
X44a	0.098	0.030	0.174	0.129	0.101	0.060	0.018	0.161
X45a	0.322	0.467	0.406	0.424	0.232	0.520	0.314	0.204

Continued next page

Table 4.6 Continued

	X9a	X10a	X11a	X12a	X13a	X14a	X15a	X16a
X46a	0.274	0.321	0.257	0.248	0.283	0.275	-0.072	0.094
X47a	0.597	0.576	0.665	0.625	0.358	0.569	0.335	0.338
X48a	0.303	0.285	0.296	0.280	0.312	0.222	0.007	0.181
X49a	0.252	0.124	0.087	0.070	0.294	0.257	0.015	0.193
X50a	0.344	0.600	0.531	0.549	0.366	0.456	0.356	0.317
X51a	0.138	0.413	0.372	0.415	0.261	0.325	0.312	0.293
X52a	0.161	0.223	0.294	0.290	0.382	0.124	0.047	0.280
X53a	0.322	0.478	0.429	0.414	0.269	0.367	0.255	0.180
X54a	0.242	0.467	0.394	0.414	0.452	0.414	0.449	0.211
X55a	0.043	0.392	0.322	0.488	0.316	0.268	0.236	0.301
X56a	0.122	0.212	0.140	0.053	0.241	0.262	-0.083	0.182
X57a	0.207	0.364	0.259	0.334	0.393	0.264	0.088	0.289
X58a	0.428	0.276	0.373	0.365	0.476	0.417	0.154	0.254
X59a	0.356	0.282	0.321	0.284	0.443	0.289	0.045	0.185
X60a	0.421	0.245	0.352	0.306	0.219	0.338	0.019	0.287
X61a	0.583	0.407	0.462	0.370	0.243	0.510	0.162	0.428
X62a	0.434	0.577	0.610	0.572	0.184	0.634	0.266	0.454
X63a	0.296	0.095	0.335	0.242	0.037	0.259	0.204	0.301
X64a	0.540	0.633	0.776	0.673	0.266	0.654	0.405	0.533
X65a	0.551	0.722	0.690	0.660	0.457	0.751	0.594	0.489
X66a	0.465	0.690	0.734	0.752	0.506	0.745	0.505	0.559
X67a	0.158	0.223	0.233	0.339	0.325	0.250	0.266	0.110
X68a	0.431	0.667	0.711	0.784	0.446	0.699	0.561	0.556
X69a	0.381	0.447	0.476	0.583	0.436	0.564	0.579	0.420
X70a	0.316	0.460	0.475	0.477	0.212	0.476	0.430	0.488
Ya	**0.284**	**0.517**	**0.521**	**0.505**	**0.243**	**0.480**	**0.109**	**0.471**

Continued next page

Table 4.6 Continued

	X17a	X18a	X19a	X20a	X21a	X22a	X23a	X24a
X18a	0.179							
X19a	0.099	0.416						
X20a	0.226	0.336	0.361					
X21a	0.540	0.260	0.153	0.323				
X22a	0.661	0.345	0.249	0.111	0.361			
X23a	0.304	0.666	0.433	0.411	0.253	0.405		
X24a	0.221	0.636	0.415	0.365	0.142	0.452	0.800	
X25a	0.288	0.690	0.486	0.502	0.225	0.358	0.773	0.865
X26a	0.249	0.546	0.368	0.364	0.310	0.292	0.514	0.534
X27a	0.279	0.259	0.524	0.400	0.199	0.222	0.428	0.422
X28a	0.309	0.443	0.413	0.355	0.158	0.384	0.723	0.725
X29a	0.335	0.201	0.480	0.382	0.285	0.446	0.479	0.515
X30a	0.196	0.423	0.312	0.307	0.166	0.446	0.758	0.767
X31a	0.244	0.337	0.202	0.524	0.190	0.198	0.431	0.473
X32a	0.048	0.563	0.264	0.351	0.023	0.189	0.659	0.716
X33a	0.045	0.367	0.194	0.342	0.154	0.175	0.403	0.427
X34a	0.095	0.217	0.267	0.190	0.003	0.022	0.276	0.342
X35a	0.134	0.454	0.400	0.427	0.025	0.254	0.510	0.519
X36a	0.346	0.269	0.288	0.631	0.187	0.274	0.422	0.460
X37a	0.372	0.442	0.268	0.441	0.380	0.287	0.559	0.602
X38a	0.349	0.334	0.310	0.331	0.283	0.372	0.636	0.700
X39a	0.219	0.424	0.341	0.354	0.244	0.305	0.670	0.751
X40a	0.601	0.209	0.064	0.235	0.573	0.421	0.269	0.163
X41a	0.269	0.638	0.426	0.443	0.207	0.308	0.698	0.778
X42a	0.314	0.256	0.401	0.173	0.228	0.404	0.449	0.588
X43a	0.427	0.285	0.234	0.172	0.840	0.423	0.372	0.258
X44a	0.365	0.255	0.101	0.138	0.523	0.223	0.207	0.021
X45a	0.295	0.450	0.189	0.327	0.294	0.182	0.478	0.480
X46a	0.452	0.075	0.255	0.125	0.341	0.419	0.398	0.293
X47a	0.297	0.357	0.288	0.522	0.236	0.142	0.462	0.551
X48a	0.588	0.141	0.033	0.178	0.667	0.430	0.350	0.222
X49a	0.477	0.204	0.205	0.067	0.649	0.340	0.276	0.117

Continued next page

Table 4.6 Continued

	X17a	X18a	X19a	X20a	X21a	X22a	X23a	X24a
X50a	0.019	0.225	0.190	0.294	-0.182	0.132	0.344	0.458
X51a	-0.007	0.157	0.156	0.227	-0.286	0.073	0.304	0.376
X52a	0.408	0.184	0.076	0.027	0.345	0.339	0.313	0.217
X53a	-0.068	0.211	0.178	0.346	-0.170	0.010	0.339	0.355
X54a	-0.169	0.309	0.282	0.254	-0.143	0.031	0.376	0.386
X55a	0.167	0.247	0.277	0.335	-0.049	0.189	0.311	0.302
X56a	0.364	0.141	0.116	0.123	0.535	0.249	0.115	-0.010
X57a	0.394	0.104	0.269	0.186	0.397	0.509	0.316	0.198
X58a	0.387	0.187	0.024	0.129	0.200	0.310	0.536	0.409
X59a	0.377	0.313	0.109	0.246	0.489	0.423	0.424	0.276
X60a	0.405	0.188	0.145	0.239	0.371	0.451	0.472	0.304
X61a	0.117	0.231	0.258	0.458	0.170	0.065	0.356	0.384
X62a	0.320	0.335	0.246	0.301	0.180	0.372	0.418	0.612
X63a	-0.016	0.091	-0.049	0.082	0.056	-0.123	0.125	0.242
X64a	0.315	0.334	0.370	0.374	0.173	0.325	0.438	0.661
X65a	0.293	0.583	0.389	0.405	0.342	0.338	0.638	0.735
X66a	0.343	0.700	0.402	0.414	0.383	0.406	0.796	0.781
X67a	0.102	0.031	0.133	0.041	-0.130	0.130	0.194	0.270
X68a	0.248	0.743	0.467	0.438	0.237	0.335	0.798	0.769
X69a	0.134	0.594	0.355	0.266	0.083	0.140	0.716	0.616
X70a	0.220	0.341	0.349	0.472	0.302	0.143	0.451	0.387
Ya	**0.318**	**0.394**	**0.261**	**0.147**	**0.087**	**0.396**	**0.532**	**0.605**

	X25a	X26a	X27a	X28a	X29a	X30a	X31a	X32a
X26a	0.590							
X27a	0.591	0.421						
X28a	0.674	0.473	0.610					
X29a	0.488	0.273	0.529	0.558				
X30a	0.716	0.334	0.422	0.630	0.491			
X31a	0.529	0.251	0.472	0.565	0.307	0.474		
X32a	0.743	0.280	0.420	0.543	0.471	0.674	0.497	
X33a	0.516	0.349	0.415	0.286	0.467	0.424	0.352	0.528
X34a	0.397	0.427	0.347	0.289	0.259	0.369	0.225	0.185

Continued next page

Table 4.6 Continued

	X25a	X26a	X27a	X28a	X29a	X30a	X31a	X32a
X35a	0.610	0.403	0.513	0.498	0.446	0.516	0.606	0.510
X36a	0.545	0.324	0.557	0.595	0.415	0.471	0.679	0.425
X37a	0.688	0.548	0.673	0.692	0.442	0.521	0.506	0.508
X38a	0.660	0.385	0.603	0.727	0.515	0.698	0.566	0.598
X39a	0.716	0.431	0.514	0.775	0.438	0.771	0.572	0.617
X40a	0.174	0.195	0.363	0.419	0.285	0.236	0.240	0.082
X41a	0.835	0.544	0.476	0.614	0.389	0.565	0.386	0.711
X42a	0.469	0.359	0.442	0.667	0.439	0.520	0.290	0.332
X43a	0.226	0.281	0.208	0.317	0.314	0.349	0.142	0.138
X44a	0.065	0.338	0.223	0.198	-0.022	0.042	0.071	-0.043
X45a	0.510	0.343	0.314	0.522	0.167	0.384	0.446	0.464
X46a	0.258	0.055	0.177	0.390	0.437	0.377	0.143	0.240
X47a	0.694	0.444	0.542	0.533	0.264	0.442	0.661	0.418
X48a	0.224	0.272	0.107	0.331	0.272	0.352	0.328	0.033
X49a	0.127	0.185	0.159	0.264	0.311	0.249	0.060	0.090
X50a	0.474	0.214	0.506	0.475	0.297	0.408	0.592	0.486
X51a	0.363	0.054	0.399	0.517	0.352	0.361	0.459	0.431
X52a	0.156	0.207	0.169	0.389	0.203	0.218	0.199	0.068
X53a	0.414	0.146	0.403	0.445	0.150	0.339	0.571	0.418
X54a	0.384	0.065	0.362	0.484	0.248	0.343	0.433	0.498
X55a	0.274	-0.025	0.305	0.397	0.317	0.268	0.409	0.330
X56a	0.029	0.131	0.238	0.028	0.373	0.064	0.049	0.038
X57a	0.200	-0.050	0.272	0.342	0.526	0.340	0.307	0.110
X58a	0.362	0.135	0.289	0.452	0.416	0.487	0.332	0.393
X59a	0.298	0.123	0.194	0.270	0.449	0.341	0.333	0.313
X60a	0.310	0.338	0.325	0.345	0.446	0.490	0.269	0.258
X61a	0.490	0.256	0.537	0.447	0.378	0.530	0.400	0.384
X62a	0.663	0.392	0.398	0.504	0.488	0.520	0.354	0.459
X63a	0.236	0.388	0.284	0.229	0.017	0.167	0.176	0.159
X64a	0.694	0.423	0.567	0.639	0.483	0.537	0.450	0.441
X65a	0.788	0.467	0.592	0.699	0.504	0.564	0.585	0.681
X66a	0.812	0.534	0.503	0.698	0.512	0.711	0.525	0.715
X67a	0.217	0.045	0.225	0.341	0.301	0.240	0.225	0.238
X68a	0.827	0.568	0.517	0.641	0.476	0.628	0.517	0.707
X69a	0.652	0.424	0.451	0.569	0.408	0.576	0.414	0.730
X70a	0.459	0.527	0.540	0.498	0.481	0.309	0.354	0.288
Ya	**0.607**	**0.491**	**0.590**	**0.621**	**0.461**	**0.490**	**0.354**	**0.424**

Continued next page

Table 4.6 Continued

	X33a	X34a	X35a	X36a	X37a	X38a	X39a	X40a
X34a	0.542							
X35a	0.793	0.632						
X36a	0.422	0.390	0.621					
X37a	0.475	0.450	0.499	0.634				
X38a	0.260	0.313	0.436	0.547	0.661			
X39a	0.328	0.381	0.501	0.583	0.713	0.730		
X40a	0.098	0.064	0.132	0.367	0.402	0.306	0.271	
X41a	0.537	0.346	0.560	0.443	0.683	0.554	0.664	0.190
X42a	0.088	0.259	0.238	0.306	0.482	0.600	0.618	0.240
X43a	0.163	0.078	0.072	0.214	0.438	0.377	0.400	0.579
X44a	-0.049	-0.007	-0.048	-0.084	0.232	0.125	0.198	0.416
X45a	0.344	0.239	0.360	0.435	0.641	0.382	0.591	0.306
X46a	0.161	0.138	0.191	0.306	0.320	0.228	0.376	0.365
X47a	0.357	0.372	0.596	0.687	0.647	0.518	0.709	0.143
X48a	0.096	0.166	0.166	0.243	0.245	0.351	0.366	0.431
X49a	0.145	0.110	0.042	0.071	0.260	0.263	0.251	0.521
X50a	0.372	0.295	0.535	0.627	0.410	0.395	0.393	0.043
X51a	0.118	0.199	0.339	0.505	0.295	0.412	0.375	0.092
X52a	-0.133	0.113	-0.006	0.242	0.198	0.344	0.229	0.494
X53a	0.231	0.182	0.414	0.636	0.404	0.302	0.386	0.041
X54a	0.149	0.019	0.314	0.427	0.322	0.359	0.361	0.008
X55a	0.161	0.138	0.352	0.493	0.147	0.282	0.203	0.289
X56a	0.279	0.010	0.089	0.109	0.184	0.128	0.133	0.432
X57a	0.173	-0.055	0.194	0.295	0.127	0.404	0.204	0.388
X58a	0.191	0.124	0.256	0.310	0.248	0.583	0.445	0.374
X59a	0.437	0.096	0.427	0.293	0.229	0.378	0.262	0.422
X60a	0.317	0.259	0.355	0.342	0.361	0.528	0.391	0.492
X61a	0.384	0.434	0.449	0.611	0.559	0.478	0.620	0.154
X62a	0.477	0.503	0.534	0.551	0.658	0.491	0.669	0.130
X63a	0.361	0.582	0.403	0.186	0.341	0.307	0.368	0.055
X64a	0.427	0.623	0.570	0.590	0.692	0.612	0.717	0.158
X65a	0.469	0.338	0.570	0.620	0.818	0.758	0.696	0.267
X66a	0.460	0.352	0.534	0.504	0.663	0.716	0.734	0.349
X67a	-0.008	0.095	0.176	0.174	0.130	0.298	0.276	0.091
X68a	0.559	0.379	0.698	0.513	0.601	0.614	0.648	0.201
X69a	0.390	0.304	0.555	0.337	0.472	0.609	0.583	0.145
X70a	0.376	0.457	0.452	0.470	0.643	0.524	0.419	0.225
Ya	**0.499**	**0.406**	**0.548**	**0.443**	**0.540**	**0.455**	**0.540**	**0.261**

Continued next page

Table 4.6 Continued

	X41a	X42a	X43a	X44a	X45a	X46a	X47a	X48a
X42a	0.480							
X43a	0.321	0.368						
X44a	0.197	0.316	0.503					
X45a	0.631	0.382	0.345	0.283				
X46a	0.272	0.376	0.493	0.009	0.249			
X47a	0.553	0.356	0.151	0.093	0.386	0.233		
X48a	0.111	0.345	0.612	0.426	0.168	0.390	0.369	
X49a	0.143	0.308	0.674	0.401	0.186	0.450	0.107	0.733
X50a	0.343	0.171	-0.134	-0.310	0.180	0.100	0.490	-0.074
X51a	0.253	0.193	-0.239	-0.309	0.107	0.005	0.323	-0.154
X52a	0.072	0.224	0.392	0.249	0.017	0.317	0.170	0.477
X53a	0.303	0.108	-0.089	-0.249	0.168	0.181	0.542	-0.037
X54a	0.324	0.167	-0.075	-0.177	0.184	0.129	0.309	-0.171
X55a	0.260	0.134	-0.007	-0.113	0.147	0.156	0.140	-0.049
X56a	0.084	0.077	0.464	0.295	0.126	0.135	0.062	0.393
X57a	0.060	0.272	0.379	0.046	0.034	0.287	0.079	0.430
X58a	0.370	0.329	0.242	0.039	0.190	0.317	0.276	0.382
X59a	0.295	0.146	0.492	0.134	0.112	0.451	0.261	0.454
X60a	0.336	0.315	0.523	0.246	0.157	0.397	0.200	0.392
X61a	0.384	0.432	0.264	0.047	0.149	0.363	0.650	0.216
X62a	0.613	0.446	0.256	-0.052	0.398	0.354	0.602	0.176
X63a	0.318	0.321	0.095	0.232	0.183	-0.031	0.398	0.081
X64a	0.675	0.614	0.249	0.101	0.458	0.321	0.647	0.200
X65a	0.702	0.524	0.353	0.128	0.640	0.296	0.619	0.244
X66a	0.759	0.519	0.425	0.253	0.610	0.275	0.469	0.347
X67a	0.170	0.324	-0.067	0.013	-0.005	0.217	0.181	0.045
X68a	0.768	0.340	0.297	0.146	0.579	0.224	0.538	0.208
X69a	0.542	0.315	0.139	0.089	0.350	0.216	0.428	0.170
X70a	0.388	0.319	0.257	0.187	0.395	0.151	0.363	0.103
Ya	**0.544**	**0.415**	**0.164**	**0.077**	**0.405**	**0.230**	**0.459**	**0.225**

Continued next page

Table 4.6 Continued

	X49a	X50a	X51a	X52a	X53a	X54a	X55a	X56a
X50a	-0.251							
X51a	-0.236	0.827						
X52a	0.400	0.315	0.393					
X53a	-0.213	0.873	0.729	0.395				
X54a	-0.187	0.747	0.746	0.366	0.793			
X55a	-0.120	0.672	0.764	0.457	0.596	0.661		
X56a	0.523	-0.192	-0.189	0.105	-0.218	-0.247	-0.083	
X57a	0.455	0.159	0.227	0.396	0.106	0.206	0.366	0.431
X58a	0.329	0.260	0.355	0.417	0.193	0.192	0.251	0.355
X59a	0.407	0.104	0.051	0.314	0.143	0.088	0.208	0.365
X60a	0.350	0.084	0.058	0.353	0.119	-0.042	0.111	0.430
X61a	0.168	0.395	0.306	0.097	0.446	0.261	0.184	0.177
X62a	0.067	0.402	0.353	0.173	0.318	0.195	0.229	0.130
X63a	0.006	0.179	0.104	0.097	0.052	-0.089	-0.037	-0.025
X64a	0.103	0.410	0.361	0.163	0.301	0.231	0.220	0.056
X65a	0.203	0.438	0.346	0.210	0.411	0.449	0.293	0.140
X66a	0.301	0.389	0.364	0.341	0.317	0.411	0.397	0.271
X67a	-0.019	0.489	0.575	0.422	0.472	0.501	0.521	-0.116
X68a	0.174	0.450	0.354	0.191	0.349	0.406	0.370	0.146
X69a	0.217	0.375	0.351	0.122	0.275	0.421	0.273	-0.014
X70a	0.077	0.288	0.309	0.089	0.168	0.225	0.308	0.213
Ya	**0.147**	**0.360**	**0.337**	**0.105**	**0.177**	**0.099**	**0.251**	**0.216**

	X57a	X58a	X59a	X60a	X61a	X62a	X63a	X64a
X58a	0.475							
X59a	0.498	0.594						
X60a	0.424	0.675	0.712					
X61a	0.142	0.311	0.334	0.397				
X62a	0.159	0.250	0.226	0.324	0.551			
X63a	-0.280	0.194	0.082	0.253	0.394	0.432		
X64a	0.110	0.258	0.138	0.255	0.574	0.788	0.515	
X65a	0.250	0.338	0.345	0.329	0.445	0.658	0.252	0.644
X66a	0.337	0.513	0.377	0.452	0.376	0.625	0.213	0.611
X67a	0.214	0.353	0.202	0.287	0.226	0.303	0.143	0.227
X68a	0.231	0.378	0.380	0.366	0.335	0.592	0.243	0.597

Continued next page

Table 4.6 Continued

X69a	0.118	0.379	0.348	0.281	0.348	0.321	0.240	0.338
X70a	0.196	0.131	0.115	0.284	0.402	0.495	0.342	0.486
Ya	**0.162**	**0.342**	**0.235**	**0.246**	**0.391**	**0.608**	**0.375**	**0.582**

	X65a	X66a	X67a	X68a	X69a	X70a
X66a	0.823					
X67a	0.289	0.331				
X68a	0.773	0.884	0.301			
X69a	0.621	0.678	0.348	0.768		
X70a	0.643	0.538	0.177	0.553	0.422	
Ya	**0.535**	**0.549**	**0.085**	**0.590**	**0.416**	**0.470**

Table 4.7: Correlation Measures between Xa and Ya

X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14
0.21	0.20	0.00	0.26	0.39	0.23	0.36	0.33	0.28	0.52	0.52	0.50	0.24	0.48
X15	X16	X17	X18	X19	X20	X21	X22	X23	X24	X25	X26	X27	X28
0.11	0.47	0.32	0.39	0.26	0.15	0.09	0.40	0.53	0.60	0.61	0.49	0.59	0.62
X29	X30	X31	X32	X33	X34	X35	X36	X37	X38	X39	X40	X41	X42
0.46	0.49	0.35	0.42	0.50	0.41	0.55	0.44	0.54	0.45	0.54	0.26	0.54	0.42
X43	X44	X45	X46	X47	X48	X49	X50	X51	X52	X53	X54	X55	X56
0.16	0.08	0.40	0.23	0.46	0.22	0.15	0.36	0.34	0.10	0.18	0.10	0.25	0.22
X57	X58	X59	X60	X61	X62	X63	X64	X65	X66	X67	X68	X69	X70
0.16	0.34	0.24	0.25	0.39	0.61	0.37	0.58	0.53	0.55	0.09	0.59	0.42	0.47

Table 4.8: Descriptive Statistics on Importance of Variables X1 to X71

Variable	N	Mean	Median	Tr. Mean	St. Dev.	SE Mean
X1	99	8.465	10.000	8.674	2.096	0.211
X2	99	8.657	9.000	8.888	1.858	0.187
X3	99	8.545	9.000	8.854	2.047	0.206
X4	99	8.020	8.000	8.225	2.138	0.215
X5	99	8.388	9.000	8.634	1.988	0.200
X6	99	4.875	4.875	4.805	3.070	0.309
X7	99	5.557	5.000	5.563	2.649	0.266
X8	99	9.162	10.000	9.382	1.517	0.152
X9	99	7.747	8.000	7.842	1.731	0.174
X10	99	5.720	5.720	5.744	2.366	0.238
X11	99	6.793	7.000	6.938	2.249	0.226
X12	99	8.157	8.157	8.320	1.892	0.190
X13	99	7.593	7.593	7.760	1.878	0.189
X14	99	9.181	10.000	9.370	1.349	0.136
X15	99	8.747	9.000	8.921	1.497	0.150
X16	99	7.951	8.000	8.137	2.094	0.210
X17	99	7.914	8.000	8.084	1.836	0.185
X18	99	8.789	10.00	9.057	1.804	0.181
X19	99	7.640	8.000	7.825	2.214	0.223
X20	99	7.292	8.000	7.493	2.519	0.253
X21	99	8.462	8.462	8.704	1.950	0.196
X22	99	8.247	8.247	8.477	1.950	0.196
X23	99	7.571	8.000	7.804	2.408	0.242
X24	99	8.292	8.292	8.482	1.803	0.181
X25	99	8.484	9.000	8.707	1.948	0.196
X26	99	6.880	7.000	7.036	2.486	0.250
X27	99	6.532	6.532	6.648	2.372	0.238
X28	99	7.958	8.000	8.133	2.085	0.210
X29	99	8.053	8.053	8.295	2.168	0.218
X30	99	8.102	8.000	8.260	1.909	0.192
X31	99	7.684	8.000	7.862	2.028	0.204
X32	99	8.083	8.000	8.228	1.872	0.188
X33	99	7.939	8.000	8.100	1.932	0.194
X34	99	9.555	10.000	9.651	0.823	0.083
X35	99	8.212	9.000	8.393	1.864	0.187
X36	99	6.677	7.000	6.798	2.490	0.250

Continued next page

Table 4.8 Continued

Variable	N	Mean	Median	Tr. Mean	St. Dev.	SE Mean
X37	99	7.784	8.000	7.928	2.042	0.205
X38	99	8.273	8.000	8.472	1.834	0.184
X39	99	9.113	10.000	9.283	1.277	0.128
X40	99	8.541	9.000	8.703	1.546	0.155
X41	99	9.062	10.000	9.260	1.413	0.142
X42	99	8.526	9.000	8.731	1.762	0.177
X43	99	7.515	8.000	7.719	2.336	0.235
X44	99	7.970	8.000	8.191	2.201	0.221
X45	99	7.856	8.000	8.008	2.055	0.207
X46	99	6.876	8.000	7.031	2.808	0.282
X47	99	8.616	9.000	8.865	1.861	0.187
X48	99	6.227	7.000	6.308	2.880	0.289
X49	99	7.111	8.000	7.270	2.236	0.225
X50	99	7.959	8.000	8.157	2.030	0.204
X51	99	7.816	8.000	7.975	2.007	0.202
X52	99	9.061	10.000	9.315	1.634	0.164
X53	99	9.124	10.000	9.362	1.680	0.169
X54	99	8.061	9.000	8.338	2.325	0.234
X55	99	8.796	9.000	8.986	1.545	0.155
X56	99	9.091	10.000	9.247	1.238	0.124
X57	99	8.828	9.000	8.966	1.378	0.138
X58	99	8.495	9.000	8.697	1.792	0.180
X59	99	7.768	8.000	7.933	2.019	0.203
X60	99	8.602	10.00	8.816	1.926	0.194
X61	99	7.464	8.000	7.673	2.399	0.241
X62	99	9.061	10.000	9.326	1.695	0.170
X63	99	9.4949	10.000	9.618	0.941	0.095
X64	99	7.967	8.000	8.222	2.247	0.226
X65	99	9.444	10.000	9.618	1.127	0.113
X66	99	9.384	10.000	9.584	1.235	0.124
X67	99	9.556	10.000	9.708	1.042	0.105
X68	99	9.439	10.000	9.634	1.254	0.126
X69	99	9.141	10.000	9.371	1.498	0.151
X70	99	9.343	10.000	9.517	1.263	0.127
X71	99	9.040	10.000	9.236	1.531	0.154

Table 4.9: T-Test of the Mean for Members

Test of mu = 7.000 vs mu < 7.000

Var.	N	Mean	StDev	SE Mean	T	P
X1	99	8.465	2.096	0.211	6.95	1.00
X2	99	8.657	1.858	0.187	8.87	1.00
X3	99	8.545	2.047	0.206	7.51	1.00
X4	99	8.020	2.138	0.215	4.75	1.00
X5	99	8.388	1.988	0.200	6.95	1.00
X6	99	4.875	3.070	0.309	-6.89	0.00
X7	99	5.557	2.649	0.266	-5.42	0.00
X8	99	9.162	1.517	0.152	14.18	1.00
X9	99	7.747	1.731	0.174	4.29	1.00
X10	99	5.720	2.366	0.238	-5.38	0.00
X11	99	6.793	2.249	0.226	-0.92	0.18
X12	99	8.157	1.892	0.190	6.08	1.00
X13	99	7.593	1.878	0.189	3.14	1.00
X14	99	9.181	1.349	0.136	16.09	1.00
X15	99	8.747	1.497	0.150	11.61	1.00
X16	99	7.951	2.094	0.210	4.52	1.00
X17	99	7.914	1.836	0.185	4.95	1.00
X18	99	8.789	1.804	0.181	9.87	1.00
X19	99	7.640	2.214	0.223	2.88	1.00
X20	99	7.292	2.519	0.253	1.15	0.87
X21	99	8.462	1.950	0.196	7.46	1.00
X22	99	8.247	1.950	0.196	6.36	1.00
X23	99	7.571	2.408	0.242	2.36	0.99
X24	99	8.292	1.803	0.181	7.13	1.00
X25	99	8.484	1.948	0.196	7.58	1.00
X26	99	6.880	2.486	0.250	-0.48	0.32
X27	99	6.532	2.372	0.238	-1.96	0.03
X28	99	7.958	2.085	0.210	4.57	1.00
X29	99	8.053	2.168	0.218	4.83	1.00
X30	99	8.102	1.909	0.192	5.75	1.00
X31	99	7.684	2.028	0.204	3.35	1.00
X32	99	8.083	1.872	0.188	5.76	1.00
X33	99	7.939	1.932	0.194	4.84	1.00
X34	99	9.556	0.823	0.083	30.88	1.00
X35	99	8.212	1.864	0.187	6.47	1.00
X36	99	6.677	2.490	0.250	-1.29	0.10

Continued next page

Table 4.9 Continued

Test of mu = 7.000 vs mu < 7.000

Var.	N	Mean	StDev	SE Mean	T	P
X37	99	7.784	2.042	0.205	3.82	1.00
X38	99	8.273	1.834	0.184	6.90	1.00
X39	99	9.113	1.277	0.128	16.47	1.00
X40	99	8.541	1.546	0.155	9.91	1.00
X41	99	9.062	1.413	0.142	14.52	1.00
X42	99	8.526	1.762	0.177	8.62	1.00
X43	99	7.515	2.336	0.235	2.19	0.98
X44	99	7.970	2.201	0.221	4.38	1.00
X45	99	7.856	2.055	0.207	4.14	1.00
X46	99	6.876	2.808	0.282	-0.44	0.33
X47	99	8.616	1.861	0.187	8.64	1.00
X48	99	6.227	2.880	0.289	-2.67	0.0044
X49	99	7.111	2.236	0.225	0.49	0.69
X50	99	7.959	2.030	0.204	4.70	1.00
X51	99	7.816	2.007	0.202	4.05	1.00
X52	99	9.061	1.634	0.164	12.55	1.00
X53	99	9.124	1.680	0.169	12.58	1.00
X54	99	8.061	2.325	0.234	4.54	1.00
X55	99	8.796	1.545	0.155	11.57	1.00
X56	99	9.091	1.238	0.124	16.81	1.00
X57	99	8.828	1.378	0.138	13.20	1.00
X58	99	8.495	1.792	0.180	8.30	1.00
X59	99	7.768	2.019	0.203	3.78	1.00
X60	99	8.602	1.926	0.194	8.28	1.00
X61	99	7.464	2.399	0.241	1.92	0.97
X62	99	9.061	1.695	0.170	12.09	1.00
X63	99	9.495	0.941	0.095	26.39	1.00
X64	99	7.967	2.247	0.226	4.28	1.00
X65	99	9.444	1.127	0.113	21.58	1.00
X66	99	9.384	1.235	0.124	19.21	1.00
X67	99	9.556	1.042	0.105	24.40	1.00
X68	99	9.439	1.254	0.126	19.35	1.00
X69	99	9.141	1.498	0.151	14.22	1.00
X70	99	9.343	1.263	0.127	18.46	1.00
X71	99	9.040	1.531	0.154	13.26	1.00

Table 4.10: Wilcoxon Signed Rank Median Test for Members

Test of median = 7.000 versus median < 7.000

	N	N for Test	Wilcoxon Statistic	P	Estimated Median
X1	99	94	3796.5	1.000	9.000
X2	99	91	3763.0	1.000	9.000
X3	99	89	3487.0	1.000	9.000
X4	99	85	2846.5	1.000	8.500
X5	99	89	3434.5	1.000	8.500
X6	99	88	649.5	0.000	4.937
X7	99	87	777.0	0.000	5.500
X8	99	94	4254.0	1.000	9.500
X9	99	87	2842.0	1.000	7.873
X10	99	89	798.0	0.000	5.860
X11	99	86	1869.0	0.498	7.000
X12	99	93	3559.0	1.000	8.157
X13	99	86	2689.0	1.000	7.796
X14	99	95	4433.0	1.000	9.500
X15	99	88	3701.0	1.000	9.000
X16	99	90	3034.0	1.000	8.000
X17	99	93	3376.5	1.000	8.000
X18	99	94	4018.0	1.000	9.000
X19	99	91	2859.0	0.999	7.820
X20	99	86	2256.5	0.952	7.500
X21	99	97	4042.5	1.000	9.000
X22	99	91	3510.5	1.000	8.500
X23	99	87	2659.0	0.999	8.000
X24	99	88	3402.5	1.000	8.500
X25	99	94	3845.0	1.000	9.000
X26	99	88	1967.5	0.517	7.000
X27	99	86	1529.0	0.071	6.500
X28	99	83	2684.0	1.000	8.000
X29	99	90	3283.5	1.000	8.500
X30	99	90	3283.0	1.000	8.500
X31	99	87	2776.5	1.000	8.000
X32	99	88	3180.5	1.000	8.041
X33	99	88	3033.5	1.000	8.000
X34	99	98	4844.0	1.000	10.000
X35	99	86	3156.0	1.000	8.500

Continued next page

Table 4.10 Continued

Test of median = 7.000 versus median < 7.000

	N	N for Test	Wilcoxon Statistic	P	Estimated Median
X36	99	82	1511.5	0.191	7.000
X37	99	87	2745.5	1.000	8.000
X38	99	90	3498.5	1.000	8.500
X39	99	95	4416.0	1.000	9.500
X40	99	85	3441.0	1.000	8.500
X41	99	96	4477.0	1.000	9.031
X42	99	89	3549.5	1.000	9.000
X43	99	85	2456.5	0.997	7.500
X44	99	84	2782.5	1.000	8.000
X45	99	86	2802.0	1.000	8.000
X46	99	88	1964.0	0.511	7.000
X47	99	93	3881.5	1.000	9.000
X48	99	83	1294.0	0.021	6.500
X49	99	80	1824.0	0.837	7.500
X50	99	84	2804.5	1.000	8.000
X51	99	89	2952.0	1.000	8.000
X52	99	95	4234.0	1.000	9.500
X53	99	96	4395.0	1.000	9.562
X54	99	88	3037.0	1.000	8.500
X55	99	93	4095.0	1.000	9.000
X56	99	95	4429.0	1.000	9.500
X57	99	89	3835.5	1.000	9.000
X58	99	93	3853.5	1.000	9.000
X59	99	87	2761.0	1.000	8.000
X60	99	89	3556.5	1.000	9.000
X61	99	87	2487.0	0.992	7.500
X62	99	94	4176.5	1.000	9.500
X63	99	99	4878.5	1.000	9.500
X64	99	89	3061.0	1.000	8.483
X65	99	96	4572.5	1.000	10.000
X66	99	97	4611.0	1.000	9.500
X67	99	98	4746.5	1.000	10.000
X68	99	98	4685.0	1.000	10.000
X69	99	95	4321.0	1.000	9.500
X70	99	95	4457.5	1.000	9.500
X71	99	88	3771.0	1.000	9.500

Table 4.11: Test for the Difference of the Means between X and Xa
Two Sample T-Test and Confidence Interval

Two sample T for X1 vs X1a

	N	Mean	StDev	SE Mean
X1	99	8.46	2.10	0.21
X1a	33	7.61	2.68	0.47

90% CI for mu X1 - mu X1a: (0.11, 1.61)
T-Test mu X1 = mu X1a (vs not =): T = 1.89 P = 0.060 DF = 130
Both use Pooled StDev = 2.25

Two sample T for X2 vs X2a

	N	Mean	StDev	SE Mean
X2	99	8.66	1.86	0.19
X2a	33	8.76	1.35	0.23

90% CI for mu X2 - mu X2a: (-0.68, 0.48)
T-Test mu X2 = mu X2a (vs not =): T = -0.29 P = 0.77 DF = 130
Both use Pooled StDev = 1.75

Two sample T for X3 vs X3a

	N	Mean	StDev	SE Mean
X3	99	8.55	2.05	0.21
X3a	33	8.88	1.11	0.19

90% CI for mu X3 - mu X3a: (-0.95, 0.29)
T-Test mu X3 = mu X3a (vs not =): T = -0.89 P = 0.37 DF = 130
Both use Pooled StDev = 1.86

Two sample T for X4 vs X4a

	N	Mean	StDev	SE Mean
X4	99	8.02	2.14	0.21
X4a	33	7.82	1.79	0.31

Continued next page

Table 4.11 Continued

90% CI for mu X4 - mu X4a: (-0.48, 0.89)
T-Test mu X4 = mu X4a (vs not =): T = 0.49 P = 0.63 DF = 130
Both use Pooled StDev = 2.06

Two sample T for X5 vs X5a

	N	Mean	StDev	SE Mean
X5	99	8.39	1.99	0.20
X5a	33	8.55	1.30	0.23

90% CI for mu X5 - mu X5a: (-0.77, 0.46)
T-Test mu X5 = mu X5a (vs not =): T = -0.43 P = 0.67 DF = 130
Both use Pooled StDev = 1.84

Two sample T for X6 vs X6a

	N	Mean	StDev	SE Mean
X6	99	4.87	3.07	0.31
X6a	32	4.69	2.96	0.52

90% CI for mu X6 - mu X6a: (-0.84, 1.21)
T-Test mu X6 = mu X6a (vs not =): T = 0.30 P = 0.76 DF = 129
Both use Pooled StDev = 3.04

Two sample T for X7 vs X7a

	N	Mean	StDev	SE Mean
X7	99	5.56	2.65	0.27
X7a	32	4.97	2.47	0.44

90% CI for mu X7 - mu X7a: (-0.29, 1.47)
T-Test mu X7 = mu X7a (vs not =): T = 1.11 P = 0.27 DF = 129
Both use Pooled StDev = 2.61

Continued next page

Table 4.11 Continued

Two sample T for X8 vs X8a

	N	Mean	StDev	SE Mean
X8	99	9.16	1.52	0.15
X8a	33	9.15	1.09	0.19

90% CI for mu X8 - mu X8a: (-0.46, 0.48)
T-Test mu X8 = mu X8a (vs not =): T = 0.04 P = 0.97 DF = 130
Both use Pooled StDev = 1.42

Two sample T for X9 vs X9a

	N	Mean	StDev	SE Mean
X9	99	7.75	1.73	0.17
X9a	28	7.43	2.06	0.39

90% CI for mu X9 - mu X9a: (-0.32, 0.96)
T-Test mu X9 = mu X9a (vs not =): T = 0.82 P = 0.41 DF = 125
Both use Pooled StDev = 1.81

Two sample T for X10 vs X10a

	N	Mean	StDev	SE Mean
X10	99	5.72	2.37	0.24
X10a	28	5.54	2.71	0.51

90% CI for mu X10 - mu X10a: (-0.68, 1.05)
T-Test mu X10 = mu X10a (vs not =): T = 0.35 P = 0.73 DF = 125
Both use Pooled StDev = 2.45

Two sample T for X11 vs X11a

	N	Mean	StDev	SE Mean
X11	99	6.79	2.25	0.23
X11a	28	7.46	1.84	0.35

90% CI for mu X11 - mu X11a: (-1.44, 0.10)
T-Test mu X11 = mu X11a (vs not =): T = -1.45 P = 0.15 DF = 125
Both use Pooled StDev = 2.17

Continued next page

Table 4.11 Continued

Two sample T for X12 vs X12a

	N	Mean	StDev	SE Mean
X12	99	8.16	1.89	0.19
X12a	28	8.07	2.11	0.40

90% CI for mu X12 - mu X12a: (-0.60, 0.77)
T-Test mu X12 = mu X12a (vs not =): T = 0.21 P = 0.84 DF = 125
Both use Pooled StDev = 1.94

Two sample T for X13 vs X13a

	N	Mean	StDev	SE Mean
X13	99	7.59	1.88	0.19
X13a	28	7.36	2.25	0.42

90% CI for mu X13 - mu X13a: (-0.46, 0.93)
T-Test mu X13 = mu X13a (vs not =): T = 0.56 P = 0.58 DF = 125
Both use Pooled StDev = 1.96

Two sample T for X14 vs X14a

	N	Mean	StDev	SE Mean
X14	99	9.18	1.35	0.14
X14a	28	9.04	1.04	0.20

90% CI for mu X14 - mu X14a: (-0.31, 0.60)
T-Test mu X14 = mu X14a (vs not =): T = 0.53 P = 0.60 DF = 125
Both use Pooled StDev = 1.29

Two sample T for X15 vs X15a

	N	Mean	StDev	SE Mean
X15	99	8.75	1.50	0.15
X15a	28	8.68	1.31	0.25

90% CI for mu X15 - mu X15a: (-0.45, 0.59)
T-Test mu X15 = mu X15a (vs not =): T = 0.22 P = 0.83 DF = 125
Both use Pooled StDev = 1.46

Continued next page

Table 4.11 Continued

Two sample T for X16 vs X16a

	N	Mean	StDev	SE Mean
X16	99	7.95	2.09	0.21
X16a	28	7.32	2.47	0.47

90% CI for mu X16 - mu X16a: (-0.14, 1.40)
T-Test mu X16 = mu X16a (vs not =): T = 1.35 P = 0.18 DF = 125
Both use Pooled StDev = 2.18

Two sample T for X17 vs X17a

	N	Mean	StDev	SE Mean
X17	99	7.91	1.84	0.18
X17a	28	7.21	2.17	0.41

90% CI for mu X17 - mu X17a: (0.02, 1.38)
T-Test mu X17 = mu X17a (vs not =): T = 1.71 P = 0.090 DF = 125
Both use Pooled StDev = 1.91

Two sample T for X18 vs X18a

	N	Mean	StDev	SE Mean
X18	99	8.79	1.80	0.18
X18a	32	8.91	1.55	0.27

90% CI for mu X18 - mu X18a: (-0.71, 0.47)
T-Test mu X18 = mu X18a (vs not =): T = -0.33 P = 0.74 DF = 129
Both use Pooled StDev = 1.75

Two sample T for X19 vs X19a

	N	Mean	StDev	SE Mean
X19	99	7.64	2.21	0.22
X19a	31	6.90	2.18	0.39

Continued next page

Table 4.11 Continued

Two sample T for X16 vs X16a

	N	Mean	StDev	SE Mean
X16	99	7.95	2.09	0.21
X16a	28	7.32	2.47	0.47

90% CI for mu X16 - mu X16a: (-0.14, 1.40)
T-Test mu X16 = mu X16a (vs not =): T = 1.35 P = 0.18 DF = 125
Both use Pooled StDev = 2.18

Two sample T for X17 vs X17a

	N	Mean	StDev	SE Mean
X17	99	7.91	1.84	0.18
X17a	28	7.21	2.17	0.41

90% CI for mu X17 - mu X17a: (0.02, 1.38)
T-Test mu X17 = mu X17a (vs not =): T = 1.71 P = 0.090 DF = 125
Both use Pooled StDev = 1.91

Two sample T for X18 vs X18a

	N	Mean	StDev	SE Mean
X18	99	8.79	1.80	0.18
X18a	32	8.91	1.55	0.27

90% CI for mu X18 - mu X18a: (-0.71, 0.47)
T-Test mu X18 = mu X18a (vs not =): T = -0.33 P = 0.74 DF = 129
Both use Pooled StDev = 1.75

Two sample T for X19 vs X19a

	N	Mean	StDev	SE Mean
X19	99	7.64	2.21	0.22
X19a	31	6.90	2.18	0.39

Continued next page

Table 4.11 Continued

90% CI for mu X19 - mu X19a: (-0.02, 1.49)
T-Test mu X19 = mu X19a (vs not =): T = 1.62 P = 0.11 DF = 128
Both use Pooled StDev = 2.21

Two sample T for X20 vs X20a

	N	Mean	StDev	SE Mean
X20	99	7.29	2.52	0.25
X20a	32	6.47	2.34	0.41

90% CI for mu X20 - mu X20a: (-0.01, 1.66)
T-Test mu X20 = mu X20a (vs not =): T = 1.63 P = 0.10 DF = 129
Both use Pooled StDev = 2.48

Two sample T for X21 vs X21a

	N	Mean	StDev	SE Mean
X21	99	8.46	1.95	0.20
X21a	32	8.31	1.84	0.33

90% CI for mu X21 - mu X21a: (-0.50, 0.80)
T-Test mu X21 = mu X21a (vs not =): T = 0.38 P = 0.70 DF = 129
Both use Pooled StDev = 1.92

Two sample T for X22 vs X22a

	N	Mean	StDev	SE Mean
X22	99	8.25	1.95	0.20
X22a	31	8.74	1.39	0.25

90% CI for mu X22 - mu X22a: (-1.12, 0.13)
T-Test mu X22 = mu X22a (vs not =): T = -1.31 P = 0.19 DF = 128
Both use Pooled StDev = 1.83

Continued next page

Table 4.11 Continued

Two sample T for X23 vs X23a

	N	Mean	StDev	SE Mean
X23	99	7.57	2.41	0.24
X23a	32	8.66	1.84	0.33

90% CI for mu X23 - mu X23a: (-1.85, -0.32)
T-Test mu X23 = mu X23a (vs not =): T = -2.33 P = 0.021 DF = 129
Both use Pooled StDev = 2.28

Two sample T for X24 vs X24a

	N	Mean	StDev	SE Mean
X24	99	8.29	1.80	0.18
X24a	31	8.13	1.80	0.32

90% CI for mu X24 - mu X24a: (-0.45, 0.78)
T-Test mu X24 = mu X24a (vs not =): T = 0.44 P = 0.66 DF = 128
Both use Pooled StDev = 1.80

Two sample T for X25 vs X25a

	N	Mean	StDev	SE Mean
X25	99	8.48	1.95	0.20
X25a	33	8.76	1.58	0.28

90% CI for mu X25 - mu X25a: (-0.89, 0.35)
T-Test mu X25 = mu X25a (vs not =): T = -0.73 P = 0.47 DF = 130
Both use Pooled StDev = 1.86

Two sample T for X26 vs X26a

	N	Mean	StDev	SE Mean
X26	99	6.88	2.49	0.25
X26a	32	7.09	2.18	0.38

Continued next page

Table 4.11 Continued

90% CI for mu X26 - mu X26a: (-1.03, 0.60)
T-Test mu X26 = mu X26a (vs not =): T = -0.43 P = 0.66 DF = 129
Both use Pooled StDev = 2.42

Two sample T for X27 vs X27a

	N	Mean	StDev	SE Mean
X27	99	6.53	2.37	0.24
X27a	32	6.03	2.09	0.37

90% CI for mu X27 - mu X27a: (-0.28, 1.28)
T-Test mu X27 = mu X27a (vs not =): T = 1.07 P = 0.29 DF = 129
Both use Pooled StDev = 2.31

Two sample T for X28 vs X28a

	N	Mean	StDev	SE Mean
X28	99	7.96	2.08	0.21
X28a	33	8.27	1.70	0.30

90% CI for mu X28 - mu X28a: (-0.98, 0.35)
T-Test mu X28 = mu X28a (vs not =): T = -0.78 P = 0.43 DF = 130
Both use Pooled StDev = 2.00

Two sample T for X29 vs X29a

	N	Mean	StDev	SE Mean
X29	99	8.05	2.17	0.22
X29a	33	7.39	2.52	0.44

90% CI for mu X29 - mu X29a: (-0.09, 1.41)
T-Test mu X29 = mu X29a (vs not =): T = 1.45 P = 0.15 DF = 130
Both use Pooled StDev = 2.26

Continued next page

Table 4.11 Continued

Two sample T for X30 vs X30a

	N	Mean	StDev	SE Mean
X30	99	8.10	1.91	0.19
X30a	33	8.00	1.73	0.30

90% CI for mu X30 - mu X30a: (-0.52, 0.72)
T-Test mu X30 = mu X30a (vs not =): T = 0.27 P = 0.79 DF = 130
Both use Pooled StDev = 1.87

Two sample T for X31 vs X31a

	N	Mean	StDev	SE Mean
X31	99	7.68	2.03	0.20
X31a	33	7.82	1.33	0.23

90% CI for mu X31 - mu X31a: (-0.76, 0.49)
T-Test mu X31 = mu X31a (vs not =): T = -0.36 P = 0.72 DF = 130
Both use Pooled StDev = 1.88

Two sample T for X32 vs X32a

	N	Mean	StDev	SE Mean
X32	99	8.08	1.87	0.19
X32a	33	7.73	2.00	0.35

90% CI for mu X32 - mu X32a: (-0.28, 0.99)
T-Test mu X32 = mu X32a (vs not =): T = 0.93 P = 0.35 DF = 130
Both use Pooled StDev = 1.91

Two sample T for X33 vs X33a

	N	Mean	StDev	SE Mean
X33	99	7.94	1.93	0.19
X33a	33	7.06	2.33	0.41

90% CI for mu X33 - mu X33a: (0.20, 1.56)
T-Test mu X33 = mu X33a (vs not =): T = 2.14 P = 0.034 DF = 130
Both use Pooled StDev = 2.04

Continued next page

Table 4.11 Continued

Two sample T for X34 vs X34a

	N	Mean	StDev	SE Mean
X34	99	9.556	0.823	0.083
X34a	33	9.152	0.834	0.15

90% CI for mu X34 - mu X34a: (0.129, 0.68)
T-Test mu X34 = mu X34a (vs not =): T = 2.43 P = 0.016 DF = 130
Both use Pooled StDev = 0.826

Two sample T for X35 vs X35a

	N	Mean	StDev	SE Mean
X35	99	8.21	1.86	0.19
X35a	33	7.73	1.96	0.34

90% CI for mu X35 - mu X35a: (-0.14, 1.11)
T-Test mu X35 = mu X35a (vs not =): T = 1.28 P = 0.20 DF = 130
Both use Pooled StDev = 1.89

Two sample T for X36 vs X36a

	N	Mean	StDev	SE Mean
X36	99	6.68	2.49	0.25
X36a	33	6.48	2.60	0.45

90% CI for mu X36 - mu X36a: (-0.65, 1.03)
T-Test mu X36 = mu X36a (vs not =): T = 0.38 P = 0.71 DF = 130
Both use Pooled StDev = 2.52

Two sample T for X37 vs X37a

	N	Mean	StDev	SE Mean
X37	99	7.78	2.04	0.21
X37a	33	7.82	1.79	0.31

90% CI for mu X37 - mu X37a: (-0.70, 0.63)
T-Test mu X37 = mu X37a (vs not =): T = -0.09 P = 0.93 DF = 130
Both use Pooled StDev = 1.98

Continued next page

Table 4.11 Continued

Two sample T for X38 vs X38a

	N	Mean	StDev	SE Mean
X38	99	8.27	1.83	0.18
X38a	33	8.30	1.36	0.24

90% CI for mu X38 - mu X38a: (-0.61, 0.55)
T-Test mu X38 = mu X38a (vs not =): T = -0.09 P = 0.93 DF = 130
Both use Pooled StDev = 1.73

Two sample T for X39 vs X39a

	N	Mean	StDev	SE Mean
X39	99	9.11	1.28	0.13
X39a	32	9.09	1.09	0.19

90% CI for mu X39 - mu X39a: (-0.40, 0.44)
T-Test mu X39 = mu X39a (vs not =): T = 0.08 P = 0.94 DF = 129
Both use Pooled StDev = 1.23

Two sample T for X40 vs X40a

	N	Mean	StDev	SE Mean
X40	99	8.54	1.55	0.16
X40a	32	8.62	1.16	0.20

90% CI for mu X40 - mu X40a: (-0.58, 0.41)
T-Test mu X40 = mu X40a (vs not =): T = -0.28 P = 0.78 DF = 129
Both use Pooled StDev = 1.46

Two sample T for X41 vs X41a

	N	Mean	StDev	SE Mean
X41	99	9.06	1.41	0.14
X41a	32	9.28	1.05	0.19

Continued next page

Table 4.11 Continued

90% CI for mu X41 - mu X41a: (-0.67, 0.23)
T-Test mu X41 = mu X41a (vs not =): T = -0.81 P = 0.42 DF = 129
Both use Pooled StDev = 1.34

Two sample T for X42 vs X42a

	N	Mean	StDev	SE Mean
X42	99	8.53	1.76	0.18
X42a	32	8.44	1.63	0.29

90% CI for mu X42 - mu X42a: (-0.49, 0.67)
T-Test mu X42 = mu X42a (vs not =): T = 0.25 P = 0.80 DF = 129
Both use Pooled StDev = 1.73

Two sample T for X43 vs X43a

	N	Mean	StDev	SE Mean
X43	99	7.52	2.34	0.23
X43a	33	7.61	2.34	0.41

90% CI for mu X43 - mu X43a: (-0.87, 0.69)
T-Test mu X43 = mu X43a (vs not =): T = -0.19 P = 0.85 DF = 130
Both use Pooled StDev = 2.34

Two sample T for X44 vs X44a

	N	Mean	StDev	SE Mean
X44	99	7.97	2.20	0.22
X44a	33	7.55	2.18	0.38

90% CI for mu X44 - mu X44a: (-0.31, 1.16)
T-Test mu X44 = mu X44a (vs not =): T = 0.96 P = 0.34 DF = 130
Both use Pooled StDev = 2.20

Continued next page

Table 4.11 Continued

Two sample T for X45 vs X45a

	N	Mean	StDev	SE Mean
X45	99	7.86	2.06	0.21
X45a	33	7.91	1.65	0.29

90% CI for mu X45 - mu X45a: (-0.71, 0.60)
T-Test mu X45 = mu X45a (vs not =): T = -0.14 P = 0.89 DF = 130
Both use Pooled StDev = 1.96

Two sample T for X46 vs X46a

	N	Mean	StDev	SE Mean
X46	99	6.88	2.81	0.28
X46a	32	6.78	2.54	0.45

90% CI for mu X46 - mu X46a: (-0.83, 1.02)
T-Test mu X46 = mu X46a (vs not =): T = 0.17 P = 0.87 DF = 129
Both use Pooled StDev = 2.74

Two sample T for X47 vs X47a

	N	Mean	StDev	SE Mean
X47	99	8.62	1.86	0.19
X47a	33	8.48	1.18	0.20

90% CI for mu X47 - mu X47a: (-0.44, 0.70)
T-Test mu X47 = mu X47a (vs not =): T = 0.38 P = 0.70 DF = 130
Both use Pooled StDev = 1.72

Two sample T for X48 vs X48a

	N	Mean	StDev	SE Mean
X48	99	6.23	2.88	0.29
X48a	31	6.10	2.36	0.42

Continued next page

Table 4.11 Continued

90% CI for mu X48 - mu X48a: (-0.81, 1.07)
T-Test mu X48 = mu X48a (vs not =): T = 0.23 P = 0.82 DF = 128
Both use Pooled StDev = 2.77

Two sample T for X49 vs X49a

	N	Mean	StDev	SE Mean
X49	99	7.11	2.24	0.22
X49a	33	6.94	2.08	0.36

90% CI for mu X49 - mu X49a: (-0.56, 0.90)
T-Test mu X49 = mu X49a (vs not =): T = 0.39 P = 0.70 DF = 130
Both use Pooled StDev = 2.20

Two sample T for X50 vs X50a

	N	Mean	StDev	SE Mean
X50	99	7.96	2.03	0.20
X50a	32	7.56	1.92	0.34

90% CI for mu X50 - mu X50a: (-0.28, 1.07)
T-Test mu X50 = mu X50a (vs not =): T = 0.97 P = 0.33 DF = 129
Both use Pooled StDev = 2.00

Two sample T for X51 vs X51a

	N	Mean	StDev	SE Mean
X51	99	7.82	2.01	0.20
X51a	32	7.37	1.93	0.34

90% CI for mu X51 - mu X51a: (-0.23, 1.11)
T-Test mu X51 = mu X51a (vs not =): T = 1.09 P = 0.28 DF = 129
Both use Pooled StDev = 1.99

Continued next page

Table 4.11 Continued

Two sample T for X52 vs X52a

	N	Mean	StDev	SE Mean
X52	99	9.06	1.63	0.16
X52a	32	8.94	1.44	0.25

90% CI for mu X52 - mu X52a: (-0.41, 0.66)
T-Test mu X52 = mu X52a (vs not =): T = 0.38 P = 0.70 DF = 129
Both use Pooled StDev = 1.59

Two sample T for X53 vs X53a

	N	Mean	StDev	SE Mean
X53	99	9.12	1.68	0.17
X53a	32	9.22	1.48	0.26

90% CI for mu X53 - mu X53a: (-0.65, 0.46)
T-Test mu X53 = mu X53a (vs not =): T = -0.29 P = 0.78 DF = 129
Both use Pooled StDev = 1.63

Two sample T for X54 vs X54a

	N	Mean	StDev	SE Mean
X54	99	8.06	2.32	0.23
X54a	33	8.55	1.75	0.30

90% CI for mu X54 - mu X54a: (-1.22, 0.25)
T-Test mu X54 = mu X54a (vs not =): T = -1.10 P = 0.28 DF = 130
Both use Pooled StDev = 2.20

Two sample T for X55 vs X55a

	N	Mean	StDev	SE Mean
X55	99	8.80	1.54	0.16
X55a	33	8.55	1.33	0.23

Continued next page

Table 4.11 Continued

90% CI for mu X55 - mu X55a: (-0.25, 0.75)
T-Test mu X55 = mu X55a (vs not =): T = 0.83 P = 0.41 DF = 130
Both use Pooled StDev = 1.49

Two sample T for X56 vs X56a

	N	Mean	StDev	SE Mean
X56	99	9.09	1.24	0.12
X56a	33	8.94	1.25	0.22

90% CI for mu X56 - mu X56a: (-0.26, 0.56)
T-Test mu X56 = mu X56a (vs not =): T = 0.61 P = 0.54 DF = 130
Both use Pooled StDev = 1.24

Two sample T for X57 vs X57a

	N	Mean	StDev	SE Mean
X57	99	8.83	1.38	0.14
X57a	33	8.61	1.37	0.24

90% CI for mu X57 - mu X57a: (-0.24, 0.68)
T-Test mu X57 = mu X57a (vs not =): T = 0.80 P = 0.42 DF = 130
Both use Pooled StDev = 1.38

Two sample T for X58 vs X58a

	N	Mean	StDev	SE Mean
X58	99	8.49	1.79	0.18
X58a	33	8.55	1.80	0.31

90% CI for mu X58 - mu X58a: (-0.65, 0.55)
T-Test mu X58 = mu X58a (vs not =): T = -0.14 P = 0.89 DF = 130
Both use Pooled StDev = 1.80

Continued next page

Table 4.11 Continued

Two sample T for X59 vs X59a

	N	Mean	StDev	SE Mean
X59	99	7.77	2.02	0.20
X59a	33	7.79	1.49	0.26

90% CI for mu X59 - mu X59a: (-0.65, 0.61)
T-Test mu X59 = mu X59a (vs not =): T = -0.05 P = 0.96 DF = 130
Both use Pooled StDev = 1.90

Two sample T for X60 vs X60a

	N	Mean	StDev	SE Mean
X60	99	8.60	1.93	0.19
X60a	33	8.39	1.58	0.28

90% CI for mu X60 - mu X60a: (-0.41, 0.82)
T-Test mu X60 = mu X60a (vs not =): T = 0.56 P = 0.58 DF = 130
Both use Pooled StDev = 1.85

Two sample T for X61 vs X61a

	N	Mean	StDev	SE Mean
X61	99	7.46	2.40	0.24
X61a	33	7.24	1.92	0.33

90% CI for mu X61 - mu X61a: (-0.54, 0.98)
T-Test mu X61 = mu X61a (vs not =): T = 0.48 P = 0.63 DF = 130
Both use Pooled StDev = 2.29

Two sample T for X62 vs X62a

	N	Mean	StDev	SE Mean
X62	99	9.06	1.70	0.17
X62a	33	8.97	1.07	0.19

Continued next page

Table 4.11 Continued

90% CI for mu X62 - mu X62a: (-0.43, 0.61)
T-Test mu X62 = mu X62a (vs not =): T = 0.29 P = 0.77 DF = 130
Both use Pooled StDev = 1.57

Two sample T for X63 vs X63a

	N	Mean	StDev	SE Mean
X63	99	9.495	0.941	0.095
X63a	33	9.333	0.854	0.15

90% CI for mu X63 - mu X63a: (-0.145, 0.47)
T-Test mu X63 = mu X63a (vs not =): T = 0.87 P = 0.38 DF = 130
Both use Pooled StDev = 0.920

Two sample T for X64 vs X64a

	N	Mean	StDev	SE Mean
X64	99	7.97	2.25	0.23
X64a	31	7.97	1.92	0.35

90% CI for mu X64 - mu X64a: (-0.74, 0.74)
T-Test mu X64 = mu X64a (vs not =): T = -0.00 P = 1.0 DF = 128
Both use Pooled StDev = 2.18

Two sample T for X65 vs X65a

	N	Mean	StDev	SE Mean
X65	99	9.44	1.13	0.11
X65a	33	9.33	1.05	0.18

90% CI for mu X65 - mu X65a: (-0.26, 0.48)
T-Test mu X65 = mu X65a (vs not =): T = 0.50 P = 0.62 DF = 130
Both use Pooled StDev = 1.11

Continued next page

Table 4.11 Continued

Two sample T for X66 vs X66a

	N	Mean	StDev	SE Mean
X66	99	9.38	1.23	0.12
X66a	33	9.30	1.07	0.19

90% CI for mu X66 - mu X66a: (-0.32, 0.48)
T-Test mu X66 = mu X66a (vs not =): T = 0.34 P = 0.74 DF = 130
Both use Pooled StDev = 1.20

Two sample T for X67 vs X67a

	N	Mean	StDev	SE Mean
X67	99	9.56	1.04	0.10
X67a	33	9.30	1.13	0.20

90% CI for mu X67 - mu X67a: (-0.10, 0.61)
T-Test mu X67 = mu X67a (vs not =): T = 1.18 P = 0.24 DF = 130
Both use Pooled StDev = 1.06

Two sample T for X68 vs X68a

	N	Mean	StDev	SE Mean
X68	99	9.44	1.25	0.13
X68a	32	9.313	0.931	0.16

90% CI for mu X68 - mu X68a: (-0.27, 0.53)
T-Test mu X68 = mu X68a (vs not =): T = 0.52 P = 0.60 DF = 129
Both use Pooled StDev = 1.18

Two sample T for X69 vs X69a

	N	Mean	StDev	SE Mean
X69	99	9.14	1.50	0.15
X69a	33	8.85	1.18	0.20

Continued next page

Table 4.11 Continued

90% CI for mu X69 - mu X69a: (-0.18, 0.77)
T-Test mu X69 = mu X69a (vs not =): T = 1.02 P = 0.31 DF = 130
Both use Pooled StDev = 1.43

Two sample T for X70 vs X70a

	N	Mean	StDev	SE Mean
X70	99	9.34	1.26	0.13
X70a	33	9.27	1.01	0.18

90% CI for mu X70 - mu X70a: (-0.33, 0.47)
T-Test mu X70 = mu X70a (vs not =): T = 0.29 P = 0.77 DF = 130
Both use Pooled StDev = 1.21

Two sample T for X71 vs X71a

	N	Mean	StDev	SE Mean
X71	99	9.04	1.53	0.15
X71a	33	8.82	1.59	0.28

90% CI for mu X71 - mu X71a: (-0.29, 0.74)
T-Test mu X71 = mu X71a (vs not =): T = 0.72 P = 0.48 DF = 130
Both use Pooled StDev = 1.55

Table 4.12: Multiple Regression Analysis X on Y

Predictor	Coeff.	St. Dev.	T	P
Constant	0.6440	0.6365	1.01	0.315
X1	0.03432	0.07151	0.48	0.633
X2	0.08866	0.08734	1.02	0.313
X3	0.0112	0.1159	0.10	0.923
X4	0.2631	0.1005	2.62	0.011
X5	-0.1392	0.1309	-1.06	0.291
X6	-0.0551	0.1228	-0.45	0.655
X7	0.03972	0.08183	0.49	0.629
X8	0.0161	0.1113	0.14	0.886
X9	-0.0232	0.1203	-0.19	0.848
X10	0.1548	0.1284	1.21	0.232
X11	-0.0293	0.1238	-0.24	0.814
X12	0.2836	0.1605	1.77	0.081
X13	-0.05883	0.09114	-0.65	0.521
X14	-0.2173	0.1204	-1.81	0.075
X15	-0.1143	0.1378	-0.83	0.409
X16	0.0768	0.1212	0.63	0.528
X17	-0.03023	0.07341	-0.41	0.682
X18	-0.0474	0.1397	-0.34	0.735
X19	0.06365	0.07554	0.84	0.402
X20	-0.00764	0.09810	-0.08	0.938
X21	0.05517	0.06814	0.81	0.421
X22	0.06118	0.05974	1.02	0.309
X23	0.1012	0.1286	0.79	0.434
X24	0.0556	0.1439	0.39	0.700
X25	-0.0914	0.1493	-0.61	0.542
X26	0.0702	0.1161	0.60	0.547
X27	0.00028	0.06146	0.00	0.996
X28	-0.0477	0.1051	-0.45	0.651
X29	0.04927	0.06746	0.73	0.467
X30	0.0413	0.1015	0.41	0.685
X31	0.0190	0.1102	0.17	0.863
X32	-0.2810	0.1360	-2.07	0.042
X33	-0.00500	0.08157	-0.06	0.951
X34	-0.00599	0.06708	-0.09	0.929
X35	-0.02902	0.08130	-0.36	0.722
X36	-0.0144	0.1142	-0.13	0.900
X37	0.1070	0.1729	0.62	0.538
X38	0.0994	0.1613	0.62	0.540
X39	0.0331	0.1111	0.30	0.766

Continued Next Page

Table 4.12 Continued

Predictor	Coeff.	St. Dev.	T	P
X40	-0.01938	0.06887	-0.28	0.779
X41	0.0464	0.1636	0.28	0.778
X42	-0.05624	0.09108	-0.62	0.539
X43	0.06915	0.07322	0.94	0.348
X44	-0.07417	0.06512	-1.14	0.258
X45	0.0372	0.1131	0.33	0.743
X46	-0.01838	0.06569	-0.28	0.780
X47	0.18628	0.08494	2.19	0.031
X48	-0.15361	0.06288	-2.44	0.017
X49	-0.04354	0.06465	-0.67	0.503
X50	0.06575	0.08293	0.79	0.430
X51	-0.01661	0.08412	-0.20	0.844
X52	0.02893	0.06496	0.45	0.657
X53	-0.08227	0.08082	-1.02	0.312
X54	0.0440	0.1072	0.41	0.683
X55	0.08311	0.09451	0.88	0.382
X56	0.08333	0.06044	1.38	0.172
X57	0.02001	0.06851	0.29	0.771
X58	0.0644	0.1023	0.63	0.531
X59	-0.11318	0.08675	-1.30	0.196
X60	0.12034	0.07618	1.58	0.118
X61	-0.0510	0.1139	-0.45	0.656
X62	-0.0184	0.1044	-0.18	0.861
X63	0.05448	0.06085	0.90	0.373
X64	-0.0081	0.1159	-0.07	0.945
X65	-0.0968	0.1336	-0.72	0.471
X66	0.0971	0.1490	0.65	0.517
X67	-0.03483	0.06257	-0.56	0.579
X68	-0.1768	0.1376	-1.28	0.203
X69	0.2099	0.1560	1.35	0.183
X70	-0.02443	0.09192	-0.27	0.791

S = 0.5227 R-Sq = 71.8% R-Sq(adj) = 45.7%

Analysis of Variance

Source	DF	SS	MS	F	P
Regression	70	52.7457	0.7535	2.76	0.000
Residual Error	76	20.7645	0.2732		
Total	146	73.5102			

Table 4.13: Correlation Measures between X and Y

X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14
0.49	0.32	0.46	0.50	0.47	0.45	0.37	0.45	0.28	0.46	0.39	0.47	0.18	0.32
X15	X16	X17	X18	X19	X20	X21	X22	X23	X24	X25	X26	X27	X28
0.38	0.56	0.26	0.37	0.31	0.42	0.42	0.24	0.46	0.47	0.47	0.42	0.31	0.47
X29	X30	X31	X32	X33	X34	X35	X36	X37	X38	X39	X40	X41	X42
0.25	0.45	0.57	0.29	0.20	0.24	0.29	0.51	0.42	0.46	0.38	0.26	0.45	0.24
X43	X44	X45	X46	X47	X48	X49	X50	X51	X52	X53	X54	X55	X56
0.25	0.08	0.32	0.12	0.46	0.18	0.21	0.26	0.22	0.17	0.13	0.21	0.30	0.24
X57	X58	X59	X60	X61	X62	X63	X64	X65	X66	X67	X68	X69	X70
0.19	0.40	0.24	0.37	0.33	0.19	0.16	0.41	0.48	0.48	0.14	0.38	0.52	0.39

Table 4.14: Stepwise Regression X on Ya

F-to-Enter: 4.00 F-to-Remove: 4.00

Response is Ya on 70 predictors, with N = 147

Step	1	2	3	4	5	6	7
Constant	2.058	1.862	2.051	2.456	2.490	2.902	2.576
X33	0.274	0.265	0.259	0.317	0.299	0.314	0.308
T-Value	4.96	4.90	4.92	5.84	5.57	5.87	5.89
X56		0.089	0.167	0.177	0.146	0.150	0.144
T-Value		2.82	4.21	4.60	3.64	3.80	3.72
X44			-0.112	-0.123	-0.133	-0.127	-0.133
T-Value			-3.09	-3.45	-3.80	-3.64	-3.89
X13				-0.170	-0.197	-0.187	-0.227
T-Value				-3.17	-3.66	-3.50	-4.19
X49					0.099	0.101	0.102
T-Value					2.49	2.56	2.64
X26						-0.123	-0.182
T-Value						-2.21	-3.10
X12							0.187
T-Value							2.66
S	0.597	0.583	0.567	0.550	0.540	0.533	0.521
R-Sq	14.51	18.99	24.05	29.06	32.05	34.35	37.52

Continued next page

Table 4.14 Continued

Step	8	9	10	11
Constant	3.089	3.125	3.153	3.015
X33	0.313	0.292	0.300	0.290
T-Value	6.10	5.69	5.82	5.70
X56	0.149	0.135	0.153	0.144
T-Value	3.91	3.56	4.17	3.96
X44	-0.137	-0.142	-0.136	-0.124
T-Value	-4.09	-4.29	-4.10	-3.73
X13	-0.211	-0.239	-0.225	-0.214
T-Value	-3.95	-4.43	-4.18	-4.00
X49	0.088	0.068		
T-Value	2.30	1.78		
X26	-0.155	-0.173	-0.171	-0.210
T-Value	-2.66	-2.98	-2.94	-3.49
X12	0.257	0.266	0.272	0.222
T-Value	3.48	3.65	3.72	2.93
X9	-0.215	-0.239	-0.262	-0.281
T-Value	-2.66	-2.98	-3.29	-3.55
X7		0.106	0.124	0.112
T-Value		2.31	2.74	2.50
X3				0.149
T-Value				2.20
S	0.510	0.503	0.507	0.500
R-Sq	40.57	42.80	41.48	43.47

APPENDIX A

PRACTITIONERS' QUESTIONNAIRE

We are in the process of researching what makes a successful team. We are reviewing many variables, behaviors and training which go into the development, implementation and maintenance of team practices. As a superintendent, you can assist us by stating the value you would place on each of the factors listed below in evaluating a functioning team. The lists that follow are characteristics suggested by superintendents that they use to assess the level at which their BBST and SGCT function. The information has been arranged into cells as a means of organization based upon literature research utilized for this study. In your own assessment, please indicate the relevancy of the variable (how important it is), using a score of 1 to 10; the higher the score the more important is the variable.

Score (1 to 10)	Variable Description
	Internal School Relationships
	Parental involvement
	Administration relations
	Staff relations
	Parents relations
	Teacher satisfaction with team
	Student interest in team
	Out of meeting discussion
	Participation of staff on team
	Product of Team: School Governance Council (SGC)
	Input on school governance
	Connection with other school councils (interschool)
	Cooperation planning with PTO, Title I PAC (intraschool)
	Maintain clear lines of authority and responsibility for ed reform law
	Willingness to advocate in a public forum for resources
	Follow through with decisions made
	Goal oriented
	Student progress/problem resolution
	Amount of workable ideas generated
	Product of Team: Building Based Support Team (BBST)
	Pre-referral vs. referral (SPED)
	IEP evaluations
	Special Education reports
	Referrals from staff to team
	Success of students referred to team
	Fewer referrals to special education
	Amount of workable ideas generated
	Product Outgrowth of both BBST and SGC
	Meaningful school improvement plan
	Parental community program
	Report to school committee
	Annual strategic plan development
	Training
	Personnel/professional growth
	Visibility of ideas generated
	Instructional/curricular leadership
	Management skills

Score (1 to 10)	Variable Description
	Descriptive Factors of a Thriving Functioning Team
	Ability to follow through
	Feedback from constituents
	Length of meeting
	Perception of level of knowledge
	Members' self perception of their effective involvement
	Clearly defined process/mission/guidelines/roles
	Regular attendance at meetings
	Ability to collaborate
	Shared goals
	Setting a time to meet
	Diversity in group composition
	Set agendas
	Agreed upon minutes
	Ability to stay focused
	More than one leader
	Periodic self evaluation
	Use of expertise
	Compatibility
	Administrative support
	Action on behalf of students' interest
	Descriptive Factors of Team Process/Dynamics
	Ability to act within district parameters
	Ability to communicate in common language
	Ability to problem solve
	Ability to synthesize important information
	Willingness to accept consensus
	Members take risks
	Efforts valued
	Equal time
	Ability to listen to and accept each member's point of view
	Respect for team members
	Descriptive Factors of Dynamics in the School Community
	High level of participation between teams
	Honesty/sincerity
	Open communication
	Respect
	Trust
	Open discussion encouraged
	Conflict can be managed without disrespectful behaviors
	Positive words - "thank you"

APPENDIX B

VARIABLES OF TRAINING AND SUPPORT

Steering Committee activities:

1. There is a plan for implementation of school teams.
2. There is a plan for evaluating team progress.
3. Team success stories are communicated throughout the school.
4. Teams are supported through the superintendent's recommendation to the school board (committee) for team practices to be implemented.
5. Teams are supported through the adoption of team practices by the school board (committee).

Variable of Viability:

6. Teams are accepted by staff members at the site.
7. Team members are seen as school leaders.
8. Team members are respected by the staff for their knowledge and problem solving ability.

Variables of Cultural Acceptance:

9. The team model for the school team was selected by school staff.
10. Standard operating procedures to be utilized by the team and staff were chosen by the school staff.
11. Staff were allowed to adjust the team model to unique featuring (nuances) of the school.
12. The mission and purpose of the team was decided by school staff at the site.
13. The school staff developed a vision for their team.

14. The team sets realistic goals for itself and school staff.

15. Team members have the ability to communicate interpersonally with each other and school staff.

Consulting skills and team membership skills:

16. The team members have ability in consultation skills.

17. The team members have the ability to brainstorm solutions.

18. Team members utilize effective communication skills in the team process.

19. Team members have the ability to identify problems.

20. Team members have the ability to solve problems.

21. Team members have an understanding of academic intervention.

22. Team members have an understanding of behavioral intervention.

23. Team members reach consensus on problems and solutions.

24. The team sets up a follow-up plan for support including a follow-up meeting date to evaluate the intervention.

25. The team locates various resources associated with the intervention or solution.

Collaboration:

26. The team provides immediate on-going support to school staff on individual students and school-wide problems.

27. The team provides immediate crisis intervention.

28. The team has a sense of group to team development and understands the stages of orientation, dissatisfaction, resolution and productivity of the team.

29. Team members have defined roles.

30. The team is given authority to make specific decisions by administration (i.e., principal, superintendent)
31. The team is given meaningful work associated to the school community and school improvement.
32. The team gains support from external resources through networking with teams inside and outside the district.
33. The team uses a system of rewards, traditions and ceremonies to celebrate team members participation as a show of support to one another.
34. The team members number between 8-12 people which is considered the optimum number for team participation.
35. Team members commit to the goals and visions of the team.

<u>Group process activities:</u>

36. Team members have trust in one another.
37. Team communication is open between team members.
38. Team members collaborate with one another to make decisions and brainstorm solutions.
39. The team uses conflict resolution skills to resolve differences.
40. Team members alternate roles to control power by sharing facilitation, recording, time keeping and observing group process.
41. The team conducts effective, productive meetings.
42. The team is supported through incentives such as substitutes to cover classrooms for meeting times and training.

Variables of team value:

43. The team process acts as a one-on-one or individualized in service to teachers working on their skills and methods.
44. The team increases teachers' skills in dealing with special needs, bilingual, ESL, and at-risk students.
45. The team gives moral and peer support to teachers facing more diverse and complex learners in regular classrooms.
46. The team helps teachers and parents to learn new and alternate methods of working with children who present with difficult behaviors.
47. The team members and staff are willing to take risks by attempting new methods brainstormed at team meetings.
48. Errors are considered part of learning by the team and staff willing to try alternate methods in dealing with children.
49. Staff of the school become more reflective about the educational methodology utilized at the school.
50. Team decisions are made in the best interest of the children.

Variables of team visibility:

51. Team members and staff are provided a consistent schedule for team meetings.
52. The team agenda is set prior to the meeting and is posted for staff awareness.
53. The team is flexible and meets more often and in larger time blocks when necessary to meet the school needs.
54. The team is viewed as providing a valued, visible and viable resource to school staff.

Variables of Group Process:

55. Team members are provided the opportunity to share opinions and concerns equitably during meetings.
56. Team members seek clarity and provide clarity on problems and solutions as they are suggested at team members.
57. Team members support one another's opinions.
58. Team members summarize their understanding of problems and solutions discussed at team meetings.
59. Community involvement is increased by involvement or representation in the school team process.
60. Teams are sanctioned by those in the staff's structural hierarchy of power.
61. The team members represent a number of opinions. Not everyone perceives issues, problems and solutions in the same way.
62. Team members are able to gather needed data, analyze the information and utilize it in problem solving.
63. The team uses benchmarks to determine progress on innovation and strategies to resolve problems.

Collaborative consultation:

64. Team members are assigned to follow up with a staff member, parent or specific group in relation to suggested solution strategies.
65. Team members are actively involved in school improvement plans writing or contributing to school improvement activities as suggested in the plan.

Training questions:

1. Teams receive training in group process (i.e., communication skills, consensus making, brainstorming, clarifying, summarizing, equity in discussion [gate keeping] effective team meeting.
2. Teams receive training in group dynamics (i.e., conflict resolution, trust, open communication, collaboration and consulting skills, roles, and norms of group behavior).
3. Teams receive training in group to team stage development theory (i.e., orientation, dissatisfaction, resolution, production and termination stages of team development).
4. Teams receive training in conflict resolution.
5. Teams receive training in coming to consensus.
6. Teams receive training in calculated risk taking (i.e., attempting new strategies, willingness to learn from errors, experimentation is part of school culture).
7. Staff and team were trained in the chosen team model.
8. The staff and team received training on the process of change.
9. The staff and team received training on school culture.
10. The team was trained in techniques of process consulting with staff members (i.e., peer problem solving, peer coaching, reflective group work).
11. The team was trained in techniques to conduct an effective team meeting.
12. The team was trained in problem anticipation, problem identification, and problem solving techniques.
13. The team was trained in decision-making techniques.
14. The team was trained in school improvement plan development.

15. The team was trained in curriculum development techniques.
16. The team was trained in staff development process.
17. The team was trained in academic and behavioral intervention to be utilized at the school site.
18. Teams received training on collaborative consulting techniques (cooperative teaching, collaborative teaching).
19. The team was trained in methods of data collection and analysis to establish base-line data.
20. The team was trained in evaluative techniques to determine growth and progress in relation to benchmarks and goals established for school improvement.

<u>Principals and Parents as Team Participants:</u>

1. The principal is a member of the team.
2. The principal provides information on district resources.
3. The principal provides information on district finances.
4. The principal supports recommended activities of the team.
5. The principal provides decision-making responsibility to the team.
6. The principal works with others on staff and on the team to set team goals.
7. The principal's power is not inhibiting to team process.
8. The principal plays various roles as team facilitator, timekeeper and recorder.
9. The principal is seen as an instructional leader of the school.
10. The principal and staff agree the team is important to school procedures.
11. Team resources are advocated for by the principal.
12. Team members are supported by the building principal.

13. Parents participate in the school community by visiting classes and attending their child's school events.
14. Parents are members of the school team(s).
15. Parents on school teams come from PTA or other parent organizations.
16. Parents on school teams are former school volunteers.
17. Parents on school teams have actively participated in other school events (i.e., open house, potluck supper, booster club, school fair, fund raising, etc.)
18. Parents are encouraged by teachers and administrators to be part of school life.
19. Parents are considered productive members of school teams.
20. Positive parent involvement can be facilitated through participation in team training.

APPENDIX C

ACTIVITIES QUESTIONNAIRE

The following questions refer to activities of site teams. Please rate your perception as to the level the activity occurs in your site team. The rating is done a 5-point scale from low to high.

#	Question	Occurrence of Activity Low .....High				
1	There is a plan for a periodic evaluation of team progress.	1	2	3	4	5
2	The team is supported by administration.	1	2	3	4	5
3	Team members have a positive relationship with staff members in the site.	1	2	3	4	5
4	Team members are perceived as having knowledge and expertise.	1	2	3	4	5
5	The staff respects team members.	1	2	3	4	5
6	The team maintains clear line of authority and responsibility in line with the Education Reform Law.	1	2	3	4	5
7	The team has a stated mission.	1	2	3	4	5
8	The team sets shared goals.	1	2	3	4	5
9	Team members have the ability to communicate in a common language.	1	2	3	4	5
10	The team members have the ability to problem solve.	1	2	3	4	5
11	Team members utilize open communication in the team process.	1	2	3	4	5
12	Team members have the ability to come to problem resolution.	1	2	3	4	5
13	Team members exhibit instructional curricular leadership.	1	2	3	4	5
14	Team members generate an amount of workable ideas.	1	2	3	4	5
15	Team members willingly accept consensus.	1	2	3	4	5
16	The team has the ability to follow through with decisions made.	1	2	3	4	5
17	The team is willing to advocate for resources in public forums.	1	2	3	4	5
18	The team members have a positive relationship to administration.	1	2	3	4	5
19	Team members have defined roles.	1	2	3	4	5
20	The team has the ability to act within district parameters.	1	2	3	4	5
21	The team develops a meaningful school improvement plan.	1	2	3	4	5
22	The team has contact with other school teams.	1	2	3	4	5
23	The team members are goal oriented.	1	2	3	4	5
24	Team members have trust in one another.	1	2	3	4	5
25	Team members collaborate with one another.	1	2	3	4	5
26	The team manages conflict without disrespectful behaviors.	1	2	3	4	5
27	Team members alternate roles so that there is more than one leader.	1	2	3	4	5
28	The team members perceive their involvement in conducting effective meetings.	1	2	3	4	5
29	The team is supported through training.	1	2	3	4	5
30	The team m embers are willing to take risks.	1	2	3	4	5
31	Staff of the school conveys satisfaction about the team.	1	2	3	4	5
32	Team decisions are made on behalf of student interest.	1	2	3	4	5
33	Team members and staff are provided a consistent time for team meetings.	1	2	3	4	5
34	The team agenda is set prior to the meeting.	1	2	3	4	5
35	The team is flexible and meets in time block to meet the school's needs.	1	2	3	4	5
36	Staff values the team's efforts. concerns equitably during meetings.	1	2	3	4	5

#	Question	Occurrence of Activity Low .....High				
37	Team members are provided the opportunity to share opinions and concerns equitably during meetings.	1	2			
38	Team members listen to and support one another's opinions and point of view.	1	2	3	4	5
39	Team members synthesize important information.	1	2	3	4	5
40	The school team process increases parental community programming.	1	2	3	4	5
41	Team members respect one another.	1	2	3	4	5
42	The team members represent diversity of opinions.	1	2	3	4	5
43	Team members are actively involved in annual strategic planning.	1	2	3	4	5
44	Parents are members of school teams.	1	2	3	4	5
45	Team members have a positive relationship to parents.	1	2	3	4	5
46	Team members have out-of-meeting discussions about team activities between self and staff.	1	2	3	4	5
47	School staff have open participation on the team	1	2	3	4	5
48	The team gives input on school governance.	1	2	3	4	5
49	The team caries out cooperative planing with PTO, Title I, PAC and other parent groups.	1	2	3	4	5
50	Team members act as a pre-referral resource instead of the federal step to special education Evaluation.	1	2	3	4	5
51	Team activities reduce IEP evaluation.	1	2	3	4	5
52	The team develops reports on special education.	1	2	3	4	5
53	The team receives referrals from staff.	1	2	3	4	5
54	The staff perceives success for students referred to the team.	1	2	3	4	5
55	The team has fewer referrals to special education evaluation.	1	2	3	4	5
56	The team develops reports to the school committee.	1	2	3	4	5
57	The team plans personnel professional growth activities.	1	2	3	4	5
58	The team demonstrates management skills.	1	2	3	4	5
59	The team seeks feedback from constituents.	1	2	3	4	5
60	The team gains visibility by the ideas it generates.	1	2	3	4	5
61	The team follows a procedure.	1	2	3	4	5
62	Team members have regular attendance at meetings.	1	2	3	4	5
63	The team has agreed upon minutes.	1	2	3	4	5
64	The team has the ability to stay focused.	1	2	3	4	5
65	The team can use its expertise.	1	2	3	4	5
66	The team demonstrates compatibility.	1	2	3	4	5
67	There is a high level of participation between teams at the site.	1	2	3	4	5
68	There is honesty and sincerity between the team members.	1	2	3	4	5
69	The team uses positive words like "thank you" when addressing one another.	1	2	3	4	5
70	The team has guidelines to follow.	1	2	3	4	5

Rate the overall performance of your team. Select one of the following : Non Functioning = NF, Functioning with Problems = FP, Functioning = F, Thriving = T.	NF	FP	F	T

BIBLIOGRAPHY

Affleck, J.Q., Madge, S., Adams, A., & Lowenbraun, S. (1988). Integrated classroom versus resource model: Academic variability and effectiveness. Exceptional Children, 54 (4), 339-347.

Anderegg, M. L., & Vergason, G.A. (1988). An analysis of one of the cornerstones of the regular education initiative. Focus on Exceptional Children, 20 (8), 1-6.

Anderegg, M. L., & Vergason, G.A. (1989). Save the baby! A response to integrating the children of the second system. Phi Delta Kappan, 71 (1), 61-63.

Bauwens, J., Hourcade, J.J., & Friend, M. (1989). Cooperative teaching: A model for general and special education integration. Remedial and Special Education, 10 (2), 17-22.

Berg, D.H. (1987, April). Building that gets results. Transaction of the 9th Annual IAQC Annual Conference and Resource Mart. New Orleans, LA. (ERIC Document Reproduction Service 289-971).

Birdsall, P., & Tolbert, L. (1983). Documentation of model programs for the implementation of Assembly Bill 777. Sacramento, CA: Department of Education, Division of Special Education. Public Policy Research, Inc. (ERIC Document Reproduction Service, No. 242-160).

Board of Education of the City of Chicago (1991). A Guide to the Election of the Local School Councils. Chicago, Illinois. Illinois Department of Education.

Bogen, J. (1991, May). The mental health team: A process in maximizing human potential, New Haven, CT: School Development Program, Easthampton, MA: Site Based Management Training.

Bonstingl, J.J. (1992). Schools of Quality: An Introduction to Total Quality Management. Alexandria, VA: Association for Curriculum Development.

Boucher, C.R., & Weinstein, S.A. (1985). Training professionals to be powerful and collaborative. Contemporary Education 56 (3), 130-136.

Bowman, J. (1987). When is intervention an ounce of prevention? Reconceptualizing the prereferral intervention. Annual Conference of the American Education Research Associates, Washington, D.C. (ERIC Document Reproduction Service No. 285-361).

Brown, D.J. (1995). The Sabotage of School-Based Management, The School Administrator, 52 (3), 8-14.

Buller, P.F. (1986). The team building - task performance relation: Some conceptual and methodological refinement. Group and Organizational Skills, 11 (3), 147-168.

Burrello, L.C., & Stephenson, S. (1981). "Parents on school based staff support teams, A blue print for staff". Staff Support Team Task Force, Indiana University, Bloomington Education Department, National Inservice Network.

Bushy, F., & Baker, L.E. (1980). Breaking down classroom walls: establishing building based teams, evaluation of team sites. Unpublished manuscript.

Carew, D.K., Carew, E.P., & Blanchard, K.H. (1984). Group development and situational leadership: A model for managing groups. San Diego: Blanchard Training and Development, Inc.

Carew, D.K., Carew, E.P., & Blanchard, K.H. (1987). The participant's role in high performing teams. San Diego: Blanchard Training and Development, Inc.

Carew, D.K., & Carew, E.P., & Blanchard, K.H. (1988). Group development and situational leadership II. San Diego: Blanchard Training and Development, Inc.

Carlson, H.L. (1984). Low achieving pupils and pupils with learning disabilities: A comparison of the approaches. Duluth, Minnesota. University of Minnesota. (ERIC Document Reproduction Service No. 284-406).

Carter, J., & Sugai, G. (1989). Survey on prereferral practices: Responses from State Department of Education. Exceptional Children, 55 (4), 298-302.

Chalfant, J.C. (1984). Identifying learning disabled students: Guidelines for decision making. Washington, D.C. The Network, Trinity College, Burlington, Vermont, Northwest Office. Office of Special Education Research. (ERIC Document Reproduction Service No. ED 258-390).

Chalfant, J.C., Von Dusen-Pysh, M., & Moultrie, R. (1980). Teacher assistance teams: A model for within building problem solving. Washington, D.C., Office of Special Education, Research Department of Education.

Chalfant, J.C. (1979). Teacher assistance teams: A model for within building problem solving. Washington, D.C.,Office of Special Education Research Department.

Comer, J.P. (1985). "The School Development Program: A nine step guide to school improvement." New Haven, CT: School Development Program, New Haven, CT.

Commonwealth of Massachusetts. (1991). Chapter 138 of the Acts of 1991. Massachusetts Great and General Court, Boston, MA.

Conoley, J.C,. & Conoley, C.W. (1988). Useful theories in school-based consultation. Remedial and Special Education 9 (6), 14-20.

Darling-Hammond, L. (1993). Reframing the school reform agenda, developing capacity for school transformation. Phi Delta Kappan, 75 (10) 753-761.

David, J.L. (1992). School Based Decision Making: Observations on progress, a first-year report to the Prichard Committee. Lexington, KY: The Prichard Committee for Academic Excellence.

Deal, T.E., & Kennedy, A. (1982) A Corporate Culture. Reading, MA: Josey-Bass.

Defarti, A., & DiMeo, J. (1992). Classroom alternative process, CAP guide. Providence, Rhode Island: Rhode Island Department of Elementary and Secondary Education.

Deno, S., Maruyama, G., Espin, C., & Cohen, C. (1990). Educating students with mild disabilities in general education classroom: Minnesota Alternatives. Exceptional Children, 57 (2), 150-161.

Digate, G.A., & Rhodes, L.A. (1995). Building capacity for sustained improvement. The School Administrator, 52 (3), 34-38.

Dolan, W. P. (1994), Restructuring our Schools, A Primer on Systemic Change. Washington, D.C. Library of Congress Catalog Card Number 94-67028.

Donohue, A., & Gross, S. (1991). A comprehensive report on the issue of mainstreaming children with special needs, (Publication No. 16,958). Quincy, MA: Massachusetts Department of Education, Division of Special Education.

Donohue, A., & Gross, S. (1991). A review of the eligibility criteria for children with special needs. (Publication No. 16,929). Quincy, MA: Massachusetts Department of Education.

Donohue, A., & Gross, S. (1992). Eligibility guidelines for special education. (Publication #17080). Quincy, MA: Massachusetts Department of Education.

Donahoe, T. (1993). Finding the way: Structure time and culture in school improvement. Phi Delta Kappan, 75 (4), 298-305.

Drucker, P.F. (1994, April). The age of social transformation. Atlantic Monthly.

Dufour, R., & Eaker, R. (1988). Nine assumptions for school improvement. The Developer, National Staff Development Council.

Dugoff, S., Ives, R., & Shotel, J.R. (1985). Public school and university staff perceptions of the role of resource teacher. Teacher Education and Special Education, 8, (2), 75-82.

Education for All Handicapped Children Act of 1995. (1995). PL 94-142. 20 U.S.C. S. 1400, et esa enacted. Washington, D.C., United States Department of Education.

Elementary and Secondary Education Act (ESEA) as amended by Improving America's Schools Act of 1984 (IASA). (1996). Washington, D.C., United States Department of Education.

Evans, R. (1994, November). Reform, renewal, and the crisis of leadership. Paper presented at MASC/MASS Joint Conference, Cape Cod, MA.

Ferguson, D.L. (1995). The real challenge of inclusion confessions of a "Rabid Inclusive". Phi Delta Kappan, 77 (4), 281-287.

Fullan, M.G. (1994, May). Turning systemic thinking on its head. Paper prepared for United States Department of Education, Presented at Massachusetts Association of School Superintendents Spring 1995 meeting, Marlboro, MA.

Freeman, S., & Zerchykov, R. et al (1993). Massachusetts Education Reform Act, Questions and Answers on School Councils, Massachusetts Department of Education, State Publication # 17412-20-3000-9/93-CR, Malden, MA.

Freeman, S., & Zerchykov, R. et al (1994). School councils, need assessment: process and practices. Massachusetts Department of Education, State Publication #17472-47-3000 1293 DOE., Malden, MA.

Friend, M. (1985). Training special educators to be consultants: Considerations for developing programs. Teacher Education and Special Education, 8 (3), 115-120.

Fuchs, D.G. (1987). Pre-referral intervention for difficult to teach students: Mainstream Assistance Teams. George Peabody College for Teachers, Vanderbilt University, Nashville, Tennessee. Department Office of Special Education, Washington, D.C. (ERIC Document Reproduction Service No. ED 293-275).

Fuchs, D., Fuchs, L.S., & Bahr, M.W. (1990). Mainstream assistance teams: A scientific basis for the art of consultants. Exceptional children, 57 (2), 128-138.

Gabor, A. (1990). The Man Who Discovered Quality. New York: Penguin Books.

Gartner, A., & Kerzner-Lipsky, D. (1987). Beyond special education: Toward a quality system for all students. Harvard Educational Review, 57 (4), 367-395.

George, P.S. (1987). Team building without tears. Personnel Journal, 66 (11), 123-129.

Giordano, M.J. (1987, April). Performance measures one essential step in the transformation of quality circle into self managing teams. Transaction of the 9th Annual IAQC Annual Conference and Resource Mart. New Orleans, Louisiana. ERIC Document 289-971.

Glaser, E.M., & Van Eynde, D.F. (1989). Human resource development, team building and a little bit of kiem tau: Part II. Organization Development Journal, 7 (2), 20-24.

Glaser, E.M., & Van Eynde, D.F. (1989). Human resource development, team building and a little bit of Kiem Tau: Part II. Organization Development Journal, 7 (2), 21-27.

Glatthorn, A.A. (1987). Cooperative professional development peer-centered options for teacher growth. Educational Leadership, 45 (3), 31-34.

Glatthorn, A.A. (1988) Curriculum Renewal, Alexandria, VA: Association for Curriculum Development.

Glatthorn, A.A. (1989). Cooperative professional development: Facilitating the growth of the special education teacher and the classroom teacher. East Carolina University, Greenville, N.C.

Glatthorn, A.A. (1994). Developing a Quality Curriculum. Alexandria, VA: Association for Curriculum Development.

Goldring, E.B., & Rallis, S.F.(1993) Principals of Dynamic Schools Taking Charge of Change. Newbury Park, CA: Corwin Press, Inc.

Goldsmith, S., & Krysiak. (1988). Strengthening linkages between regular and special education. Quincy, MA: Massachusetts Board of Education.

Gorny, B. (1987). The improvement of special education service in an early childhood program. Nova University. (ERIC Document Reproduction Service No. ED 292-284).

Graden, J.L., Casey, A., & Christenson, L. (1985). Implementing a prereferral intervention system: Part 1. The model. Exceptional Children, 51 (5), 377-384.

Greenberg, D.E. (1987). A special educator's perspective on interfacing special and general education: A review for administrators. (Report No. ISBN--86586-167-6). Reston, VA: Council for Exceptional Children. Office of Education, Research and Development, Washington, D.C. (ERIC Document Reproduction Service No. 280-291).

Hackman, R. (1994, October). Building and maintaining high functioning teams. Presented to the Network for Advancing School Based Management, Worcester, MA. Massachusetts Department of Education, Malden, MA.

Hall, G.E. (1980). Facilitating institutional change using the individual as the frame of reference. Austin, Texas: Texas University, Research and Development Center for Teacher Education Proposed for U.S. Department of Health, Education and Welfare. (ERIC Document Reproduction Service No. ED 191 807).

Handy, C. (1989). The Age of Unreason. Cambridge, MA: Harvard Business School Press.

Hanson, D.G., & Lubin, B. (1986). Team building and group development. Organization Development Journal, 4 (1), 27-35.

Harrington, R.G., & Gibson E. (1986). Preassessment procedures for learning disabled children: Are they effective? Journal of Learning Disabilities, 19 (9), 538-541.

Harris-Wilson, J. (1987, April). School Community Relations/Project Quest, quality circles district facilitation employee empowerment: The Competitive Edge. Transaction of the 9th Annual IAQC Annual Conference and Resource Mart. New Orleans, LA. ERIC document 289-971.

Hayek, R.A. (1987). The teacher assistance team: A pre-referral support system. Focus on Exceptional Children, 20 (1), 1-7.

Heron, T.E., & Kimball, W.H. (1988). Gaining perspective with the educational consultation research base: Ecological considerations and further recommendations. Remedial and Special Education, 9 (6), 21-28.

Hersey, P., & Blanchard, K.H. (1988). Management of organizational behavior, utilizing human resources. Englewood Cliffs, New Jersey: Prentice Hall.

Hess, G.A., Jr. (1995). Chicago's new perspective on district management. Education Week, 15 (13), pg. 28.

Heufner, D.S. (1988). The consulting teacher model: Risk and opportunities. Exceptional children, 54 (5), 403-414.

Holton, G., & Doroft, D. (1995). American Education Still Separate, Still Unequal. Daedalus. Cambridge, MA: Journal of American Academy of Arts and Science.

Horvath, M.J., & Baker, L. (1981). Instructional Support Teams: Their initiation in local school building. School based staff support teams, a blue print for action. Bloomington, Indiana: Indiana University Task Force.

Hudson, P.J., Correa, V.I., Morsink, C.V. & Dykes, M.K. (1987). A new model for preservice training: Teacher as collaborator. Teacher Education and Special Education, 10 (4), 191-193.

Hyman, A., & Lawrence, C. (October 1993). Total Quality Management Trainer of Trainers Program. Presented at East Longmeadow, MA. Department of Education Training, Malden, MA.

Hyman, I.A. (1993). The Dumbing of Special Education, Education Week, 12 (35), Pg. 25.

Idol-Maestas, L., & Rifter, S. (1985). A follow-up study of resource/consulting teachers: Factors that facilitate and inhibit teacher consultation Teacher Education and Special Education, 8 (3), 121-131.

Individuals with Disabilities Education Act. Formerly Education for All Handicapped Children Act as amended by PL 101-476: 20 U.S.C. s 1400 et esa, Enacted October 30, 1995. Washington, D.C.: United States Department of Education.

Individuals with Disabilities Education Act. Amendments of 1995 and 1985. Reauthorization of the Individuals with Disabilities Act. (IDEA). Washington, D.C. United States Department of Education.

Johnson, D.W., & Johnson, R.I. (1986). Mainstreaming and cooperative learning strategies. Exceptional Children, 52, 553-561.

Johnson, L.J., Pugach, M.C., & Hammifte, D.J. (1988). Barriers to effective special education consultation. Remedial and Special Education, 9 (6), 41-47.

Joyce, B., Wolf, J., & Calhoun, E. (1993). The Self-Renewing School, Alexandria, VA: Association for Supervision and Curriculum Development.

Kane, D. (1991). Act 230: Regulation or Revolution. Montpelier, VT: Vermont State Department of Education.

Kauffman, J.M., Braaten, S., Braaten, B., Poisgrave, L., & Nelson, M. (1988). The regular education initiative: Patent medicine for behavioral disorders. Exceptional Children, 55 (1), 21-27.

Kauffman, J.M., Gerber, M.M., & Semmel, M.I. (1988). Arguable assumptions underlying the special education initiative. Journal of Learning Disabilities, 21 (1), 6-1 1.

Khelfaoui, S.E., & Predmore, C. (1997, October). Comparison of different revised self monitoring scales. Annual National Conference of the Association on Employment Practices and Employment, Miami, FL.

Knoff, H.M. (1983). Investigating disproportional influence and status in multidisciplinary child study teams. Exceptional children, 49 (4), 367-370.

Kruger, L.J., & Sadeghpour, G. (1992). Building-based support teams. A developmental and implementation guide. Malden, MA: Massachusetts Department of Education.

Lacoursiere, R.B. (1980). Life cycle of groups. New York: Human Sciences Press.

Landau, J.K. (1987). Out of the mainstream: Education of the disabled youth in Massachusetts. Boston, MA: Massachusetts Advocacy Center.

Larrivee, B. (1986). Effective teaching for mainstreamed students is effective teaching for all students. Teacher Education and Special Education, 9 (4), 173-179.

Levin, H.M., & Hopfenberg. (1991). Don't Remediate: Accelerate. Principal, 70 (3), 11-13.

Liberman, L.M., (1985). Special Education and Regular Education, A merger made in Heaven. Exceptional Children, 51, 513-516.

Long, R. (1995). Learning disabilities - A barrier to literacy instruction. Washington Office, Washington, D.C.: International Reading Association.

Maher, C.A. (1983). The Durable Approach. Journal of Organizational Behavior Management, 6, (3), 69-98.

Margolis, H., & McGettigan, J. (1988). Managing resistance to instructional modifications in mainstream environments. Remedial and Special Education, 9 (4), 15-21.

Massachusetts Department of Education. (1991). 766 Regulations. Quincy, MA: Department of Special Education.

Massachusetts Department of Education. (1991). Systemic school change. (Publication No.16,149). Quincy, MA: Massachusetts Department of Education, The Division of School Programs.

McGarry, J. (1991). Implementing Massachusetts Special Education Law: A statewide assessment. Massachusetts Department of Education, Quincy, MA: Division of Special Education.

McIntosh, D.K., & Raymond, G.I. (1987, March). Training regular education personnel to be special education consultants to other regular education personnel in rural settings, Washington, D.C.: U.S. Department of Education, Office of Educational Research and Improvement. (ERIC Document Reproduction Service No. ED 295-349).

McKenzie, K. (1998, October). Knobby analysis of knobless survey items. Annual National Confernece of the Association on Employment Practices and Principles. San Francisco, CA.

McLaughlin, M.W., & March, D. D. (1978). Staff development and school change. Teacher College Record, 80 (1), 68-94.

McLaughlin, M.W., Pincus, J., Berman, P., & Greenwood, P.W. (1975). Federal programs supporting educational change (Executive Summaries). Rand Study, 5.

McLeskey, J., & Waldron, N.L. (1995). Inclusive education programs, Must they cure students with learning disabilities to be effective? Phi Delta Kappan, 77 (4) 300-303.

Miller, M.L., & Nelson, D.L. (1987, April). The team responsibility window: Helping circles decide which problem is theirs. Transaction of the 9th Annual IAQC Annual Conference and Resource Mart. New Orleans, LA: ERIC Document 289-971.

Minkoff, M. (1995). Within our reach, a progress report on the first stage of Massachusetts education reform. Boston, MA: Massachusetts Business Alliance for Education.

Monrovia Unified School District. (May). The teacher support system: A model for referral, intervention and placement procedures for regular and special education students. Sacramento, California: Department of Education, Division of Special Education. (ERIC Document Reproduction Service No. ED 231-099).

Oches, Barry. (1989, June). Teacher assistance teams: A process for democratic teachers. Athens, Ohio: Ohio University. Paper presented at the Second Annual Institute for Democracy in Education, Athens, Ohio. (ERIC Document Reproduction Service No. ED 310-541).

Oswald, L.J. (1995). School-Based Management. Office of Education Research and Improvement, University of Oregon, Eugene, Oregon: U.S. Department of Education. (ERIC document reproduction service No. EA 026-796).

Paolucci-Whitcomb, P., & Nevin, A. (1985). Preparing consulting teachers through a collaborative approach between university faculty and field-based consulting teachers, Teacher Education and Special Education, 8 (3), 132-143.

Pogrow, S. (1993). The forgotten question in the Chapter I debate: Why are the students have so much trouble learning? Education Week, 12 (35). Pg. 36.

Pugach, M.C., & Johnson, L.J. (1988). Rethinking the relationship between consultation and collaborative problem-solving, Focus on Exceptional Children, 21 (4), 1-8.

Pugach, M.C., & Johnson, L.J, (1988, April). Peer collaboration: Enhancing teacher problem solving capabilities for students at risk. Paper presented at the Annual Meeting of the American Education Research Association, New Orleans, Louisiana.

Rallis, S.F. (1989). The Learning Disabilities Identification Project: Systemic learning disabilities identification process; Classroom alternative process. Providence, Rhode Island: The Rhode Island Department of Education.

Reisberg, L., & Wolf, R. (1986). Developing a consulting program in special education: Implementation and interventions. Focus on Exceptional Children 19 (3), 1-13.

Reisberg, L., & Wolf, R. (1988). Instructional strategies for special education consultants. Remedial and Special Education, 9 (6), 29-40.

Reitzug, U.C., & Burrello. L.C. (1995). How principals can build self-renewing schools. Educational Leadership, 53 (4), 48-50.

Reynolds, M.C., & Zetlin, A.G. (1993). Manual for 20/20 analysis: A tool for instructional planning. Philadelphia: National Center on Education in the Inner Cities at the Temple University Center for Research in Human Development and Education.

Reynolds, M.C., Zeltin, A.G., & Wang, M.C. (1993). 20/20 analysis: Taking a close look at the margins. Exceptional children, 59 (4), 294-300.

Rhodes, L.A. (1994). Copernicus, Deming and Schools: Finding a system that makes sense. Presented at Goal/QPC Annual TQM Conference, Boston, MA.

Roach, V. (1995). Supporting Inclusion, Beyond the rhetoric. Phi Delta Kappan, 77 (4), 295299.

Roodey, D.S. (1989). Building based support teams curriculum seminar series. Massachusetts Department of Education. Andover, MA: The Network, Inc.

Rucker, C.N., & Vautour, C.J.A. (1981). The child study team training program: Research and development. Teacher Education and Special Education, 4 (1), 5-12.

Saphier, J., & Gower, R. (1979). The Skillful Teacher. Carlisle, MA: Research for Better Teaching, Inc.

Saphier, J., & King, M. (1985). Good Seeds Grow in Strong Cultures, Educational Leadership. Carlisle, MA: Research for Better Teaching.

Saphier, J., & Bigda-Peyton, T. & Pierson, Geoff. (1989). How to make decisions that stay made. Carlisle, MA: Research for Better Teaching.

Saphier, J. (1993). Utilizing Evaluation and Supervision to Improve Teaching. Carlisle, MA: Research for Better Teaching, Inc.

Schachter-Rees, S., Amaral, O.M., Wandle, C.H., & Warren, E.L. (1992). Eligibility Guidelines for Special Education; Training for Local School Districts. Massachusetts Department of Education, Malden, MA.

Senate Post Audit and Oversight Bureau. (1986). Chapter 766: Special Education in Massachusetts. Boston, MA.

Senge, P. (1990). The Fifth Discipline, New York: Doubleday.

Senge, P. (1990). The Fifth Discipline: The art and practice of the learning organization. Grafton, VT: A conversation with Peter Senge presented at the Innovation Association Leadership and Mastery Program.

Sergiovanni, T. (1992). Moral Leadership. San Francisco: Jossey-Buss.

Sergiovanni, T. (1992). Moral Leadership: Getting to the heart of school reform. San Francisco: Jossey-Buss.

Sergiovanni, T. (1994) Building Community in Schools, San Francisco: Jossey-Buss.

Sexton, R.R. (1995). Looking at the big picture. Perspectives. Lexington, KY: The Prichard Committee for Academic Excellence, 6 (3).

Shedd, J.B. & Barchuach, S.B. (1991). Tangled Hierarchies. San Francisco: Jossey-Buss.

Sparks, D. (1994). A Paradigm Shift in Staff Development. Education Week, p. 42.

Stokes, S., & Axelrod, P. (1981). Staff support teams. Training presentation: Annual convention. What works in inservice councils for exceptional children. Bloomington, Indiana: National Inservice Network.

Summers, A.A., & Johnson, A.W., (1995). Doubts about decentralized decision. The School Administrator, 52 (3), 24-32.

Teitel, L. (1994). Notes from the October 12, 1994 Summit. A focus on developing and supporting effective teams. Massachusetts Department of Education, Malden, MA.

Tewel, K.J. (1 995). Despair at the central office. Educational Leaders, 53 (4) 65-68.

Thousand, J.S. (1986). The homecoming model: Educating students who present intense educational challenges within regular education environments: A guide to shared responsibilities. Burlington, VT: University of Vermont, Center of Developmental Disabilities, Departtment of Education, Washington, D.C. (ERIC Document Reproduction Service # ED 284-406).

Thousand, J.S., & Villa, R.A. (1995). Inclusion, alive and well in the Green Mountain State. Phi Delta Kappan, 77 (4), 288-291.

Tindal, G., Shinn, M., Waiz, L., & Germann, G. (1987). Mainstream consultation in secondary settings: The Pine County Model. The Journal of Special Education, 21 (3), 94-105.

Trubowitz, S. (1995). Notes of a school-based management TEAM chair. The School Administrator, 52 (3), 16-22.

Van Deverder, E.M. (1988). Involving parents: How and why. Academic Therapy, 23 (5), 523-527.

Vogt, J.F., & Griffith, S.J. (1989). Team development and proactive change: Theory and training implications. Organization Development Journal, 6 (4), 81-87.

Walker, C.M. (April 1987). Employee empowerment: Balancing individual and group needs to build commitment. Transaction of the 9th Annual IAQC Annual Conference and Resource Mart. New Orleans, LA. ERIC Document 289-971.

Wang, M.C., Reynolds, M.C., & Walberg, H.J. (1988). Integrating the children of the second system. Phi Delta Kappan, 70, (3), 248-251.

Wang, M.C., Reynolds, M.C., & Walberg, H.J. (1989). Who benefits from segregation and murky water. Phi Delta Kappan, 71 (1), 64-67.

Weisbord, M.R. (1985). Team effectiveness theory. Training and Developmental Journal, 39 (1), 27-29.

Weld, W. (1995). A new state government for Massachusetts. Boston, MA: Massachusetts Association of Superintendents of Schools, News release.

West, J.F., & Brown P.A. (1987). State Department of Education policies on consultation in special education: The state of the states. Remedial and Special Education, 8 (3), 45-51.

West, J.F., & Cannon, G.S. (1988). Essential collaborative consultation for regular and special education. Journal of Learning Disabilities, 21 (1), 56-63.

Weston, S.P. (1993). School Based Decision Making, A Guide for School Council Member and Others. Lexington, Kentucky: The Prichard Committee for Academic Excellence.

Will, M.C. (1986). Educating children with learning problems: A shared responsibility. Washington, D.C.: U.S. Department of Education.

Will, M.C. (1986). Educating children with learning problems: A shared responsibility Exceptional children, 52, 411-415.

Wohlstetter, P., & Mohrman, S.A. (1994). School-Based Management: Promise and Process. New Brunswick, NJ: Rutgers University. Consortium for Policy Research in Education.

Zigmond, N., & Jenkins, J. et al (1995). When students fail to achieve satisfactorily, a reply to McLeskey and Waldron. Phi Delta Kappan, 77 (4), 303-306.

Zins, J.E., Graden, J.L., & Ponti, C.R. (1988). Prereferral intervention to improve special service delivery. Special Services in the Schools, 4 (3/4), 109-130.